

=> FIL REG

FILE 'REGISTRY' ENTERED AT 14:29:39 ON 23 MAR 2010
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=> D HIS NOFILE

FILE 'HCAPLUS' ENTERED AT 11:13:53 ON 23 MAR 2010

E US 2008-593481/APPS

L1 1 SEA SPE=ON ABB=ON PLU=ON US2008-593481/AP
E WO2004-EP3618/APPS
L2 1 SEA SPE=ON ABB=ON PLU=ON (WO2004-EP3618/AP OR WO2004-EP3
618/PRN)
L3 1 SEA SPE=ON ABB=ON PLU=ON (L1 OR L2)
SEL L3 RN

FILE 'REGISTRY' ENTERED AT 11:14:36 ON 23 MAR 2010

L4 6 SEA SPE=ON ABB=ON PLU=ON (117655-32-0/BI OR 148595-66-8/
BI OR 256425-72-6/BI OR 25852-47-5/BI OR 39469-38-0/BI OR
868-77-9/BI)

FILE 'HCAPLUS' ENTERED AT 11:16:03 ON 23 MAR 2010

E SIN XICOLA A/AU

L5 12 SEA SPE=ON ABB=ON PLU=ON ("SIN XICOLA AGUSTI"/AU OR
"SIN XICOLA AGUSTIN"/AU)
E DUBITSKY A/AU
L6 3 SEA SPE=ON ABB=ON PLU=ON "DUBITSKY A"/AU OR "DUBITSKY A
YURI"/AU
E ALBIZZATI E/AU
L7 171 SEA SPE=ON ABB=ON PLU=ON ("ALBIZZATI E"/AU OR "ALBIZZATI
E D"/AU OR "ALBIZZATI ENRICO"/AU OR "ALBIZZATI ENRIQUE
D"/AU)
E KOPNIN E/AU
L8 79 SEA SPE=ON ABB=ON PLU=ON ("KOPNIN E"/AU OR "KOPNIN E
M"/AU OR "KOPNIN EVGENI"/AU OR "KOPNIN EVGENY"/AU OR
"KOPNIN EVGENY M"/AU OR "KOPNIN EVGUENI M"/AU)
E RODA E/AU
L9 77 SEA SPE=ON ABB=ON PLU=ON "RODA E"/AU OR "RODA ELENA"/AU
L10 334 SEA SPE=ON ABB=ON PLU=ON (L5 OR L6 OR L7 OR L8 OR L9)
E PIRELLI & C/CO
E PIRELLI&/CO
E PIRELLI & C/CO
E 101+ALL
E PIRELLI S P A/CO
E E3+ALL
L11 744 SEA SPE=ON ABB=ON PLU=ON ("PIRELLI S P A"/CO OR
"PIRELLI CAVI E SISTEMI S P A"/CO OR "PIRELLI CAVI S P
A"/CO OR "PIRELLI COORDINAMENTO PNEUMATICI S P A"/CO OR
"PIRELLI COORDINAMENTO PNEUMATICI SOCIETA PER AZIONI"/CO
OR "PIRELLI GENERAL CABLE WORKS LTD"/CO OR "PIRELLI
GENERAL PLC"/CO OR "PIRELLI LTD"/CO OR "PIRELLI PNEUMATICI
S P A"/CO OR "PIRELLI SOCIETA PER AZIONI"/CO OR "SOC
ITALIANA PIRELLI"/CO OR "SOCIETA ITALIANA PIRELLI"/CO)
E PIRELLI & C SPA ITALY/CO
E PIRELLI & C S P A ITALY/CO
E E10+ALL
L12 120 SEA SPE=ON ABB=ON PLU=ON ("PIRELLI CO"/CO,CS,PA OR
"PIRELLI C S P A"/CO,CS,PA)

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L13 863 SEA SPE=ON ABB=ON PLU=ON L11 OR L12

FILE 'REGISTRY' ENTERED AT 12:36:32 ON 23 MAR 2010

L14 1 SEA SPE=ON ABB=ON PLU=ON L4 AND PMS/CI

FILE 'LREGISTRY' ENTERED AT 12:46:40 ON 23 MAR 2010

L15 STR

FILE 'REGISTRY' ENTERED AT 13:03:41 ON 23 MAR 2010

L16 50 SEA SSS SAM L15

FILE 'LREGISTRY' ENTERED AT 13:04:03 ON 23 MAR 2010

L17 STR L15

FILE 'REGISTRY' ENTERED AT 13:09:57 ON 23 MAR 2010

L18 26 SEA SSS SAM L17

FILE 'LREGISTRY' ENTERED AT 13:15:11 ON 23 MAR 2010

L19 STR L15

FILE 'REGISTRY' ENTERED AT 13:17:00 ON 23 MAR 2010

L20 SCR 2043

L21 50 SEA SSS SAM L19 AND L20

L22 335107 SEA SSS FUL L19 AND L20

SAV TEMP L22 RUM481/A

FILE 'LREGISTRY' ENTERED AT 13:19:10 ON 23 MAR 2010

L23 STR L19

FILE 'REGISTRY' ENTERED AT 13:22:44 ON 23 MAR 2010

L24 50 SEA SUB=L22 SSS SAM L23

L25 21469 SEA SUB=L22 SSS FUL L23

SAV L25 RUM481A/A

L26 292 SEA SPE=ON ABB=ON PLU=ON L25 AND 1/NC

L27 50 SEA SPE=ON ABB=ON PLU=ON L26 AND (C2H4O OR C3H6O)

L28 1 SEA SPE=ON ABB=ON PLU=ON L27 AND L4

L29 50 SEA SUB=L22 SSS SAM L17

L30 90563 SEA SUB=L22 SSS FUL L17

L31 2066 SEA SPE=ON ABB=ON PLU=ON L30 AND 1/NC

L32 0 SEA SPE=ON ABB=ON PLU=ON L31 AND L4

L33 0 SEA SPE=ON ABB=ON PLU=ON L30 AND L4

SEL L31 1- RN

E (C15 H16 F N O2)X/MF

L34 1 SEA SPE=ON ABB=ON PLU=ON "(C15 H16 F N O2)X"/MF

SEL L31 1- CRN

EDIT E1-E999 /CRN /BI

L35 999 SEA SPE=ON ABB=ON PLU=ON (868-77-9/BI OR 96571-20-9/BI

OR 5919-74-4/BI OR 52337-42-5/BI OR 528-44-9/BI OR

56-81-5/BI OR 56090-54-1/BI OR 208589-59-7/BI OR 50327-24-7

/BI OR 59113-36-9/BI OR 9004-74-4/BI OR 9051-49-4/BI OR

106-41-2/BI OR 1143463-87-9/BI OR 14097-19-9/BI OR

173947-41-6/BI OR 1830-78-0/BI OR 194920-51-9/BI OR

25736-86-1/BI OR 29037-84-1/BI OR 39420-45-6/BI OR

42503-45-7/BI OR 627909-42-6/BI OR 1002115-20-9/BI OR

1004321-70-3/BI OR 1004549-71-6/BI OR 1009586-68-8/BI OR

1009587-82-9/BI OR 1009587-86-3/BI OR 1009588-00-4/BI OR

1009588-02-6/BI OR 101525-90-0/BI OR 1018678-95-9/BI OR

101927-31-5/BI OR 101969-92-0/BI OR 1021158-33-7/BI OR

1021158-36-0/BI OR 1021393-19-0/BI OR 1026-97-7/BI OR

10312-49-9/BI OR 1032958-89-6/BI OR 1032958-90-9/BI OR

1034342-51-2/BI OR 1034342-57-8/BI OR 1034342-58-9/BI OR
 1034342-59-0/BI OR 1034342-68-1/BI OR 1034342-69-2/BI OR
 1034342-70-5/BI OR 1034342-71-6/BI OR 103553-58-8/BI OR
 1038399-39-1/BI OR 1038399-44-8/BI OR 1041055-25-7/BI OR
 1041055-27-9/BI OR 1046270-22-7/BI OR 1047977-42-3/BI OR
 1048330-57-9/BI OR 1048354-02-4/BI OR 1048354-08-0/BI OR
 1048373-32-5/BI OR 105650-07-5/BI OR 1060374-97-1/BI OR
 1060375-00-9/BI OR 1060375-02-1/BI OR 1060375-04-3/BI OR
 107663-38-7/BI OR 1079286-97-7/BI OR 1083399-87-4/BI OR
 1084701-20-1/BI OR 1084701-23-4/BI OR 1084701-26-7/BI OR
 1084701-29-0/BI OR 1084701-32-5/BI OR 1084701-35-8/BI OR
 1084777-58-1/BI OR 1084777-60-5/BI OR 1084777-63-8/BI OR
 1084777-64-9/BI OR 1084777-66-1/BI OR 1084777-69-4/BI OR
 1084905-81-6/BI OR 1100737-35-6/BI OR 110254-11-0/BI OR
 110254-28-9/BI OR 1102959-17-0/BI OR 1103534-05-9/BI OR
 1103534-06-0/BI OR 1106769-58-7/BI OR 110782-91-7/BI OR
 1108600-25-4/BI OR 110861-35-3/BI OR 1109290-87-0/BI OR
 1110783-62-4/BI OR 1114416-30-6/BI OR 1114416-89-5/BI OR
 1116568-93-4/BI OR 111720-19-

DEL SEL

SEL L31 1240- RN

DEL SEL

SEL L31 1240- CRN

EDIT E1-E683 /CRN /BI

L36

683 SEA SPE=ON ABB=ON PLU=ON (868-77-9/BI OR 5919-74-4/BI
 OR 25736-86-1/BI OR 9004-74-4/BI OR 35752-78-4/BI OR
 67-56-1/BI OR 14216-23-0/BI OR 2867-47-2/BI OR 6976-93-8/BI
 OR 124182-73-6/BI OR 13092-57-4/BI OR 15721-10-5/BI OR
 2761-09-3/BI OR 39420-45-6/BI OR 4513-53-5/BI OR 52337-42-5
 /BI OR 5466-99-9/BI OR 7328-23-6/BI OR 89-05-4/BI OR
 89-08-7/BI OR 923-26-2/BI OR 10020-12-9/BI OR 100226-49-1/B
 I OR 100365-45-5/BI OR 100493-99-0/BI OR 100494-01-7/BI OR
 10096-69-2/BI OR 101030-50-6/BI OR 101902-34-5/BI OR
 101908-89-8/BI OR 101943-71-9/BI OR 102074-58-8/BI OR
 102223-93-8/BI OR 103135-94-0/BI OR 103380-96-7/BI OR
 103380-98-9/BI OR 103381-00-6/BI OR 103381-02-8/BI OR
 103489-89-0/BI OR 103553-48-6/BI OR 103915-84-0/BI OR
 10430-85-0/BI OR 104609-61-2/BI OR 104955-65-9/BI OR
 105-16-8/BI OR 10595-80-9/BI OR 106010-65-5/BI OR 106108-18
 -3/BI OR 106826-65-7/BI OR 106884-07-5/BI OR 106981-29-7/BI
 OR 107654-40-0/BI OR 107654-42-2/BI OR 107654-46-6/BI OR
 107654-52-4/BI OR 107654-54-6/BI OR 107998-18-5/BI OR
 107998-20-9/BI OR 108180-39-8/BI OR 108180-40-1/BI OR
 108708-06-1/BI OR 109135-67-3/BI OR 109509-78-6/BI OR
 109603-25-0/BI OR 110-16-7/BI OR 110161-78-9/BI OR
 110254-31-4/BI OR 110254-36-9/BI OR 110259-21-7/BI OR
 110412-39-0/BI OR 110680-95-0/BI OR 110712-08-8/BI OR
 111100-18-6/BI OR 111158-60-2/BI OR 111158-62-4/BI OR
 111308-10-2/BI OR 111488-97-2/BI OR 111764-75-1/BI OR
 112-34-5/BI OR 112503-98-7/BI OR 112504-00-4/BI OR
 112593-08-5/BI OR 112987-10-7/BI OR 113837-22-2/BI OR
 113930-56-6/BI OR 113930-58-8/BI OR 113955-87-6/BI OR
 114266-91-0/BI OR 114349-53-0/BI OR 114349-55-2/BI OR
 114374-38-8/BI OR 114556-73-9/BI OR 115136-92-0/BI OR
 115156-97-3/BI OR 115157-01-2/BI OR 115708-44-6/BI OR
 115708-46-8/BI OR 115708-48-0/BI OR 116928-90-6/BI OR
 117116-39-9/BI OR 117231-54-6/BI OR 117391-81-8/BI OR 117

L37

1668 SEA SPE=ON ABB=ON PLU=ON (L35 OR L36)

L38

1 SEA SPE=ON ABB=ON PLU=ON L37 AND L4

L39

3657 SEA SPE=ON ABB=ON PLU=ON L31 OR L37

FILE 'HCAPLUS' ENTERED AT 13:50:50 ON 23 MAR 2010

L40 316049 SEA SPE=ON ABB=ON PLU=ON (BATTERY OR BATTERIES OR
(ELECTROCHEM? OR ELECTROLY? OR GALVANI? OR WET OR DRY OR
PRIMARY OR SECONDARY) (2A) (CELL OR CELLS) OR WETCELL? OR
DRYCELL?) /BI,AB
L41 110326 SEA SPE=ON ABB=ON PLU=ON FUEL? (2A) CELL? OR SOFC#
L42 397439 SEA SPE=ON ABB=ON PLU=ON ELECTROCHEM? OR ELECTRO (2A)
CHEM?
L43 723201 SEA SPE=ON ABB=ON PLU=ON (L40 OR L41 OR L42)
L44 485984 SEA SPE=ON ABB=ON PLU=ON ANOD#### OR CATHOD#### OR
(POS? OR NEG?) (2A) ELECTROD####
L45 211314 SEA SPE=ON ABB=ON PLU=ON L43 AND L44
L46 5026 SEA SPE=ON ABB=ON PLU=ON L27
L47 534500 SEA SPE=ON ABB=ON PLU=ON L39
L48 1548 SEA SPE=ON ABB=ON PLU=ON L46 AND L47
L49 18 SEA SPE=ON ABB=ON PLU=ON L45 AND L48
L50 TRA PLU=ON L49 1- RN : 236 TERMS

FILE 'REGISTRY' ENTERED AT 13:54:05 ON 23 MAR 2010

L51 236 SEA SPE=ON ABB=ON PLU=ON L50
L52 54 SEA SPE=ON ABB=ON PLU=ON L51 AND M/ELS
L53 15 SEA SPE=ON ABB=ON PLU=ON L52 AND (AYS OR TIS)/CI

FILE 'HCAPLUS' ENTERED AT 14:00:20 ON 23 MAR 2010

L54 13004 SEA SPE=ON ABB=ON PLU=ON L53
L55 9 SEA SPE=ON ABB=ON PLU=ON L49 AND L54
L56 18 SEA SPE=ON ABB=ON PLU=ON L55 OR L49
L57 671073 SEA SPE=ON ABB=ON PLU=ON NANO?
L58 2 SEA SPE=ON ABB=ON PLU=ON L49 AND L57
L59 109524 SEA SPE=ON ABB=ON PLU=ON SOL? (2A) GEL?
L60 3 SEA SPE=ON ABB=ON PLU=ON L49 AND L59
L61 QUE SPE=ON ABB=ON PLU=ON (HEAT? OR WARM? OR HOT# OR
CALEFACT? OR TORREFACT? OR PYROL? OR SINTER? OR CALCIN? OR
AUTOCLAV? OR THERMOL? OR THERMAL? OR TEPEFACT? OR PREHEAT?
OR MELT? OR FUSE# OR FUSING# OR FUSION?) /BI,AB
L62 5 SEA SPE=ON ABB=ON PLU=ON L49 AND L61
L63 18 SEA SPE=ON ABB=ON PLU=ON L49 OR L55 OR L58 OR L60 OR
L62
L64 1 SEA SPE=ON ABB=ON PLU=ON L63 AND (L10 OR L13)
L65 10 SEA SPE=ON ABB=ON PLU=ON (L55 OR L58 OR L60 OR L62) AND
L63
L66 9 SEA SPE=ON ABB=ON PLU=ON L65 NOT L64
L67 8 SEA SPE=ON ABB=ON PLU=ON L63 NOT (L66 OR L64)
L68 2320 SEA SPE=ON ABB=ON PLU=ON L45 AND L59
L69 881 SEA SPE=ON ABB=ON PLU=ON L68 AND L61
L70 221 SEA SPE=ON ABB=ON PLU=ON L69 AND L57
E SOL-GEL PROCESSING/CT
E E3+ALL
L71 34823 SEA SPE=ON ABB=ON PLU=ON "SOL-GEL PROCESSING"+PFT/CT
L72 121 SEA SPE=ON ABB=ON PLU=ON L70 AND L71
L73 2 SEA SPE=ON ABB=ON PLU=ON L72 AND L46
L74 14 SEA SPE=ON ABB=ON PLU=ON L72 AND L47
L75 12 SEA SPE=ON ABB=ON PLU=ON L72 AND L54
L76 23 SEA SPE=ON ABB=ON PLU=ON (L73 OR L74 OR L75)
L77 1 SEA SPE=ON ABB=ON PLU=ON L76 AND (L10 OR L13)
L78 1 SEA SPE=ON ABB=ON PLU=ON L77 OR L64
L79 21 SEA SPE=ON ABB=ON PLU=ON L76 NOT (L67 OR L66 OR L78)
L80 TRA PLU=ON L76 1- RN : 223 TERMS

FILE 'REGISTRY' ENTERED AT 14:20:53 ON 23 MAR 2010

L81 223 SEA SPE=ON ABB=ON PLU=ON L80
 L82 29 SEA SPE=ON ABB=ON PLU=ON L81 AND (AYS OR TIS)/CI

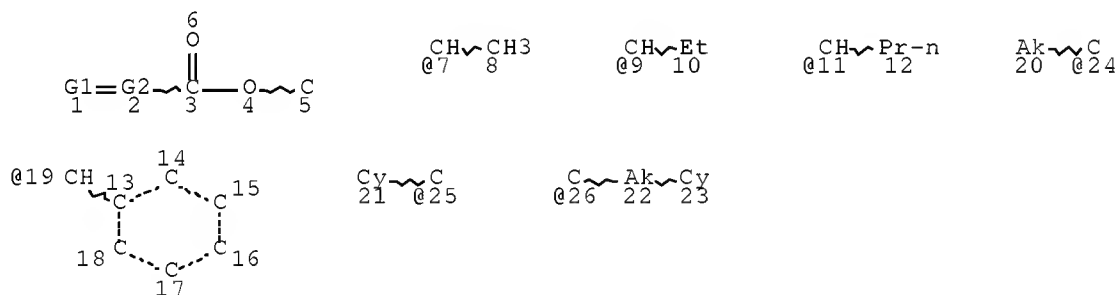
FILE 'HCAPLUS' ENTERED AT 14:22:21 ON 23 MAR 2010

L83 96837 SEA SPE=ON ABB=ON PLU=ON L82
 L84 12040 SEA SPE=ON ABB=ON PLU=ON L45 AND L83
 L85 73 SEA SPE=ON ABB=ON PLU=ON L84 AND L46
 L86 454 SEA SPE=ON ABB=ON PLU=ON L84 AND L47
 L87 7 SEA SPE=ON ABB=ON PLU=ON L85 AND L86
 L88 1 SEA SPE=ON ABB=ON PLU=ON L87 AND (L10 OR L13)
 L89 1 SEA SPE=ON ABB=ON PLU=ON L88 OR L78
 L90 0 SEA SPE=ON ABB=ON PLU=ON L87 NOT (L67 OR L66 OR L79 OR L89)
 L91 4 SEA SPE=ON ABB=ON PLU=ON L85 AND L57
 L92 48 SEA SPE=ON ABB=ON PLU=ON L86 AND L57
 L93 2 SEA SPE=ON ABB=ON PLU=ON L91 AND L59
 L94 13 SEA SPE=ON ABB=ON PLU=ON L92 AND L59
 L95 13 SEA SPE=ON ABB=ON PLU=ON L93 OR L94
 L96 1 SEA SPE=ON ABB=ON PLU=ON L95 AND (L10 OR L13)
 L97 1 SEA SPE=ON ABB=ON PLU=ON L96 OR L89
 L98 5 SEA SPE=ON ABB=ON PLU=ON L95 NOT (L67 OR L66 OR L79 OR L97)
 L99 2 SEA SPE=ON ABB=ON PLU=ON 1808-2004/PY,PRY,AY AND L79
 L100 6 SEA SPE=ON ABB=ON PLU=ON 1808-2004/PY,PRY,AY AND L66
 L101 6 SEA SPE=ON ABB=ON PLU=ON 1808-2004/PY,PRY,AY AND L67
 L102 1 SEA SPE=ON ABB=ON PLU=ON 1808-2004/PY,PRY,AY AND L98

FILE 'REGISTRY' ENTERED AT 14:29:39 ON 23 MAR 2010

=> D L25 QUE STAT

L19 STR



VAR G1=CH2/7/9/11/19

VAR G2=24/25/26/CH

NODE ATTRIBUTES:

NSPEC IS RC AT 5
 CONNECT IS E1 RC AT 20
 CONNECT IS E2 RC AT 22
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 20
 GGCAT IS UNS AT 21
 GGCAT IS SAT AT 22
 GGCAT IS UNS AT 23

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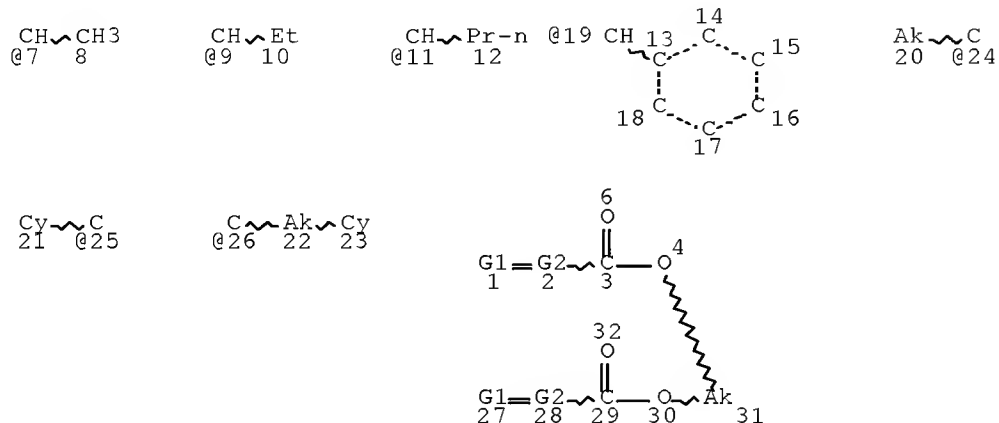
10/593,481

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DEFAULT ECLEVEL IS LIMITED
ECOUNT IS X6 C AT 20
ECOUNT IS X6 C AT 22

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE
L20 SCR 2043
L22 335107 SEA FILE=REGISTRY SSS FUL L19 AND L20
L23 STR



VAR G1=CH2/7/9/11/19
VAR G2=24/25/26/CH
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 20
CONNECT IS E2 RC AT 22
DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT 20
GGCAT IS UNS AT 21
GGCAT IS SAT AT 22
GGCAT IS UNS AT 23
GGCAT IS SAT AT 31
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS X6 C AT 20
ECOUNT IS X6 C AT 22
ECOUNT IS M2-X4 C AT 31

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE
L25 21469 SEA FILE=REGISTRY SUB=L22 SSS FUL L23

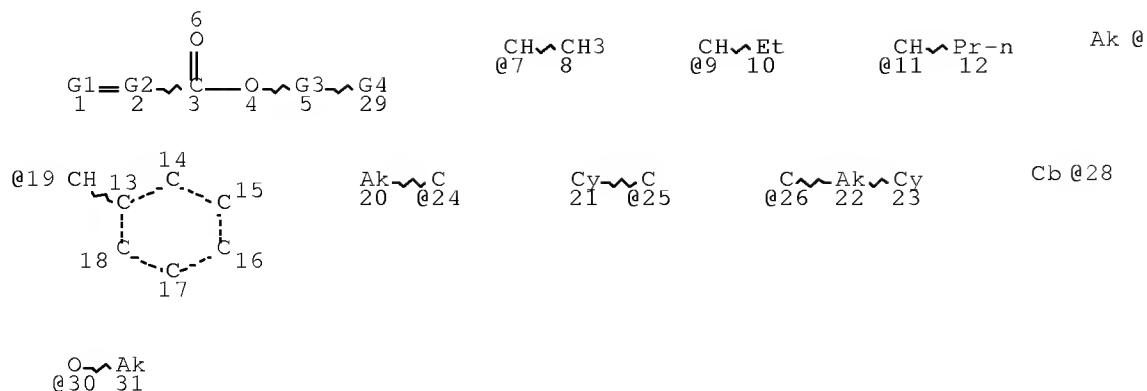
100.0% PROCESSED 108797 ITERATIONS
SEARCH TIME: 00.00.02

21469 ANSWERS

=> D L30 QUE STAT

L17

STR



Page 1-A

27

Page 1-B

VAR G1=CH2/7/9/11/19

VAR G2=24/25/26

VAR G3=27/28

VAR G4=COOH/N/OH/30/SO3H/S

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 20

CONNECT IS E2 RC AT 22

CONNECT IS E1 RC AT 31

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 20

GGCAT IS UNS AT 21

GGCAT IS SAT AT 22

GGCAT IS UNS AT 23

GGCAT IS SAT AT 31

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS X6 C AT 20

ECOUNT IS X6 C AT 22

ECOUNT IS X10 C AT 27

ECOUNT IS X10 C AT 28

ECOUNT IS X8 C AT 31

GRAPH ATTRIBUTES:

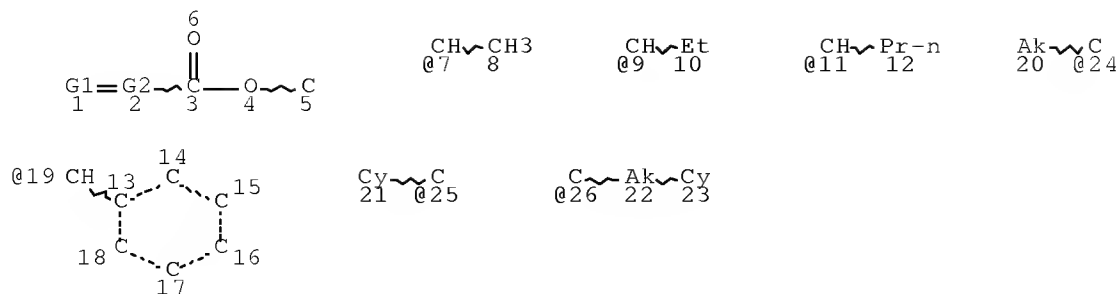
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE

L19

STR



VAR G1=CH2/7/9/11/19

VAR G2=24/25/26/CH

NODE ATTRIBUTES:

NSPEC IS RC AT 5

CONNECT IS E1 RC AT 20

CONNECT IS E2 RC AT 22

DEFAULT MLEVEL IS ATOM

GGCAT IS SAT AT 20

GGCAT IS UNS AT 21

GGCAT IS SAT AT 22

GGCAT IS UNS AT 23

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS X6 C AT 20

ECOUNT IS X6 C AT 22

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L20 SCR 2043

L22 335107 SEA FILE=REGISTRY SSS FUL L19 AND L20

L30 90563 SEA FILE=REGISTRY SUB=L22 SSS FUL L17

100.0% PROCESSED 304047 ITERATIONS

90563 ANSWERS

SEARCH TIME: 00.00.06

=> FIL HCAP

FILE 'HCAPLUS' ENTERED AT 14:30:05 ON 23 MAR 2010

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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=> D L97 1 IBIB ABS HITSTR HITIND RETABLE

L97 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1103696 HCAPLUS Full-text

DOCUMENT NUMBER: 143:370024

TITLE: Process for manufacturing an

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9

INVENTOR(S): electrochemical device
 Sin Xicola, Agustin; Dubitsky, A.
 Yuri; Albizzati, Enrico;
 Kopnin, Evgeny; Roda, Elena
 PATENT ASSIGNEE(S): Piralli & C. S.p.A., Italy
 SOURCE: PCT Int. Appl., 27 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005095270	A1	20051013	WO 2004-EP3618	20040330
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1730074	A1	20061213	EP 2004-724294	20040330
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
US 20080233030	A1	20080925	US 2008-593481	20080422
PRIORITY APPLN. INFO.:			WO 2004-EP3618	W 20040330

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Process for manufacturing an electrochem. device including a cathode, an anode and at least one electrolyte membrane disposed between said anode and said cathode, wherein at least one of the cathode, the anode and the electrolyte membrane, contains at least a ceramic material.

IT 39469-38-0P 117655-32-0P, Cerium gadolinium oxide (Ce0.8Gd0.2O1.9)
 (manufacturing electrochem. device comprising)

RN 39469-38-0 HCAPLUS

CN Nickel alloy, base, Ni 53,Cu 47 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	53	7440-02-0
Cu	47	7440-50-8

RN 117655-32-0 HCAPLUS

CN Cerium gadolinium oxide (Ce0.8Gd0.2O1.9) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	1.9	17778-80-2
Gd	0.2	7440-54-2
Ce	0.8	7440-45-1

IT 148595-66-8P, Cobalt iron lanthanum strontium oxide
(Co_{0.2}Fe_{0.8}La_{0.6}Sr_{0.4}O₃)
(oxygen deficient; manufacturing electrochem. device
comprising)

RN 148595-66-8 HCAPLUS

CN Cobalt iron lanthanum strontium oxide (Co_{0.2}Fe_{0.8}La_{0.6}Sr_{0.4}O₃) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Co	0.2	7440-48-4
Sr	0.4	7440-24-6
La	0.6	7439-91-0
Fe	0.8	7439-89-6

IT 256425-72-6P, Cobalt iron strontium oxide (Co_{0.5}FeSrO₃)
(oxygen excess; manufacturing electrochem. device comprising)

RN 256425-72-6 HCAPLUS

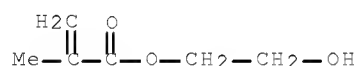
CN Cobalt iron strontium oxide (Co_{0.5}FeSrO₃) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Co	0.5	7440-48-4
Sr	1	7440-24-6
Fe	1	7439-89-6

IT 868-77-9, 2-Hydroxyethylmethacrylate 25852-47-5,
Polyethylene glycol dimethacrylate
(use manufacturing electrochem. device by sol-
gel method)

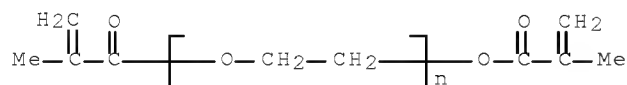
RN 868-77-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester (CA INDEX NAME)



RN 25852-47-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



IC ICM C01B0013-32

ICS H01M0008-12; H01M0004-88

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 48, 57

ST electrolyzer membrane cell ceramic

IT Electric apparatus
(electrochem.; manufacturing electrochem. device)

IT Ceramics
Cermets
Nanoparticles
(manufacturing electrochem. device comprising)

IT Sol-gel processing
(manufacturing electrochem. device comprising using)

IT Electrolytic cells
(membrane; manufacturing electrochem. device)

IT Calcination
(of gel in manufacturing electrochem. device by sol-gel method)

IT Sintering
(of powder formed from gel in manufacturing electrochem. device by sol-gel method)

IT Fuel cells
(solid oxide; manufacturing electrochem. device comprising)

IT 39469-38-0P 117655-32-0P, Cerium gadolinium oxide (Ce_{0.8}Gd_{0.2}O_{1.9})
(manufacturing electrochem. device comprising)

IT 148595-66-8P, Cobalt iron lanthanum strontium oxide (Co_{0.2}Fe_{0.8}La_{0.6}Sr_{0.4}O₃)
(oxygen deficient; manufacturing electrochem. device comprising)

IT 256425-72-6P, Cobalt iron strontium oxide (Co_{0.5}FeSrO₃)
(oxygen excess; manufacturing electrochem. device comprising)

IT 868-77-9, 2-Hydroxyethylmethacrylate 25852-47-5, Polyethylene glycol dimethacrylate
(use manufacturing electrochem. device by sol-gel method)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Chimie, R	1989			FR 2628664 A	HCAPLUS
Montedison Spa	1988			EP 0255702 A	HCAPLUS
Ong, E	1997			US 5698483 A	HCAPLUS
Rohm	1995			EP 0685435 A	HCAPLUS
Tarancon, A	2003	118	256	JOURNAL OF POWER SOURCES	HCAPLUS
Yamaguchi, T	1998			US 5788950 A	HCAPLUS

=> D L99 1-2 IBIB ABS HITSTR HITIND RETABLE

L99 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1293909 HCAPLUS Full-text

DOCUMENT NUMBER: 144:38340

TITLE: Preparation method of composite oxygen-ion electrolyte film by sol-gel process with rapid thermal processing

INVENTOR(S): Jiang, Xuening; Zhang, Qingyu; Chen, Chonglin

PATENT ASSIGNEE(S): Dalian University of Technology, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
CN 1571203	A	20050126	CN 2004-10020456	20040424

PRIORITY APPLN. INFO.:

<--	CN 2004-10020456	20040424
<--		

AB The invention falls into the tech. field of novel functional materials and relates to a preparation method of composite oxygen-ion electrolyte film. A sol-gel process with rapid thermal processing was used to prepare multilayer film A/(B/A)_n (A and B resp. stand for YSZ or RCO, $n \geq 1$). The preparation of each layer comprises preparing sol precursor, rotation coating, and carrying out fast cycle heat treatment to form a layer of the film, wherein YSZ layer with a thickness of 10-400 nm was prepared from ZrOCl₂·8H₂O and Y(NO₃)₃·6H₂O, ammonia water as precipitant, and dilute hydrochloric acid for adjusting pH value, and ethylene glycol as metal-chelator, and RCO layer with a thickness of 10-400 nm was prepared from Ce(NO₃)₃·6H₂O, R₂O₃, oxalic acid as precipitant and citric acid as metal-chelator. By repeating the above preparation processes, high-quality densified nano composite electrolyte multilayer film with uniform thickness can be obtained. By the adoption of the method, stress and deficiencies of film caused by long high-temperature heat treatment in the conventional sol-gel process can be avoided, and the cycle of film formation can be shortened, resulting in increased efficiency and reduced cost.

IT 117655-32-08, Cerium gadolinium oxide (Ce_{0.8}Gd_{0.2}O_{1.9})

(preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)

RN 117655-32-0 HCAPLUS

CN Cerium gadolinium oxide (Ce_{0.8}Gd_{0.2}O_{1.9}) (CA INDEX NAME)

Component	Ratio	Component	Registry Number
=====	=====	=====	=====
O	1.9		17778-80-2
Gd	0.2		7440-54-2
Ce	0.8		7440-45-1

IC ICM H01M0008-02

ICS H01M0008-10

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST oxygen ion electrolyte film prepn sol gel

thermal processing; fuel cell multilayer

zirconium rare earth oxide electrolyte prepn

IT Sol-gel processing

(coating; preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)

IT Solid electrolytes

(multilayer films; preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)

IT Films

(multilayer; preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)

IT Fuel cell electrolytes

Heat treatment

(preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process)

- with rapid thermal processing)
- IT Rare earth oxides
(preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)
- IT Coating process
(sol-gel; preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)
- IT 7440-02-0, Nickel, uses
(anode; preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)
- IT 144-62-7, Oxalic acid, reactions 7699-43-6, Zirconium dichloride oxide 10108-73-3, Cerium nitrate 10361-93-0, Yttrium nitrate
(preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)
- IT 7047-99-6P, Cerium oxalate 12064-62-9P, Gadolinium oxide (Gd₂O₃)
(preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)
- IT 55575-02-5P, Cerium gadolinium oxide 64417-98-7P, Yttrium zirconium oxide 106390-87-8P, Yttrium zirconium oxide (Y_{0.4}Zr_{0.8}O_{2.2}) 106830-29-9P, Yttrium zirconium oxide (Y_{0.2}Zr_{0.9}O_{2.1}) 117655-32-0P, Cerium gadolinium oxide (Ce_{0.8}Gd_{0.2}O_{1.9}) 152233-89-1P, Cerium gadolinium oxide (Ce_{0.9}Gd_{0.1}O_{1.95})
(preparation method of composite oxygen ion electrolyte film for fuel cell by sol gel process with rapid thermal processing)

L99 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:773935 HCAPLUS Full-text

DOCUMENT NUMBER: 141:246144

TITLE: Electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochemical cells

INVENTOR(S): Takeuchi, Esther S.; Leising, Randolph; Rubino, Robert; Hong, Gan

PATENT ASSIGNEE(S): Wilson Greatbatch Technologies, Inc., USA

SOURCE: Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 1460700	A2	20040922	EP 2004-251586	20040319
			<--	
EP 1460700	A3	20050817		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
US 20040185346	A1	20040923	US 2003-391885	20030319
			<--	
CA 2460214	A1	20040919	CA 2004-2460214	20040308
			<--	
JP 2004288633	A	20041014	JP 2004-79829	20040319

PRIORITY APPLN. INFO.:

US 2003-391885

A 20030319

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A new cathode design having a second cathode active material of a relatively high energy d. but of a relatively low rate capability sandwiched between two current collectors with a first cathode active material having a relatively low energy d. but of a relatively high rate capability in contact with the opposite sides of the two current collectors, is disclosed. At least the first cathode active material is of particles having an average diameter less than about 1 μ m. The present cathode design is useful for powering an implantable medical device requiring a high rate discharge application.

IT 12190-79-3, Cobalt lithium oxide colio2
(electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

RN 12190-79-3 HCAPLUS

CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
=====+	=====+	=====
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

IC ICM H01M0004-02

ICS H01M0004-36; H01M0010-40; H01M0004-48; H01M0004-58

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 63, 72

ST implantable medical device battery; battery
electrode metal vanadium oxide nanoparticle

IT Heart
(cardiac defibrillator; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

IT Combustion
(chemical vapor deposition; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

IT Vapor deposition process
(chemical, combustion; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

IT Carbonaceous materials (technological products)
(coating; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

IT Battery cathodes
Decomposition
Drug delivery systems
Hydrothermal reactions
Nanoparticles
Sol-gel processing
(electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

IT Alkali metals, uses
Carbon black, uses
Coke
Polyacetylenes, uses
Polyanilines

Polysulfides

(electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)

- IT Bone
 - (healing implants; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Medical goods
 - (implantable; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Prosthetic materials and Prosthetics
 - (implants, artificial heart pacemaker; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)
- IT Hearing
 - (implants; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Secondary batteries
 - (lithium; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Heart
 - (pacemaker, artificial; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Thermal decomposition
 - (photo-; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Conducting polymers
 - (polypyrroles; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT Conducting polymers
 - (polythiophenes; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT 7782-42-5, Graphite, uses
 - (coating; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT 7440-06-4, Platinum, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-57-5, Gold, uses 12597-68-1, Stainless steel, uses
 - (current collector; electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem . cells)
- IT 1310-65-2, Lithium hydroxide 7761-88-8, Silver nitrate, processes
 - (electrode having metal vanadium oxide nanoparticles for alkali metal-containing electrochem. cells)
- IT 108-32-7, Propylene carbonate 110-71-4, 1, 2-Dimethoxyethane 1313-13-9, Manganese dioxide, uses 1314-62-1, Vanadium oxide (V2O5), uses 1317-33-5, Molybdenum disulfide, uses 1317-37-9, Iron sulfide 1344-70-3, Copper oxide 7429-90-5, Aluminum, uses 7439-92-1, Lead, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-66-6, Zinc, uses 7784-01-2, Silver chromate Ag_2CrO_4 7789-19-7, Copper fluoride (CuF_2) 11105-02-5, Silver vanadium oxide 12019-06-6, Copper oxide (CuO) 12031-65-1,

Lithium nickel oxide linio2 12034-78-5, Niobium selenide nbse3
 12037-42-2, Vanadium oxide v6o13 12039-07-5, Titanium sulfide tis
 12068-85-8, Iron sulfide fes2 12162-79-7, Lithium manganese oxide
 limno2 12190-79-3, Cobalt lithium oxide colio2
 12789-09-2, Copper vanadium oxide 18282-10-5, Tin oxide sno2
 20667-12-3, Silver oxide (Ag2O) 21324-40-3, Lithium
 hexafluorophosphate 21651-19-4, Tin oxide sno 22205-45-4, Copper
 sulfide cu2s 29935-35-1, Lithium hexafluoroarsenate 51311-17-2,
 Carbon fluoride 113443-18-8, Silicon oxide (SiO) 155645-82-2,
 Silver oxide ag2o2 181183-66-4, Copper Silver vanadium oxide
 528841-14-7, Tin borate oxide phosphate

(electrode having metal vanadium oxide nanoparticles for
 alkali metal-containing electrochem. cells)

IT 7439-93-2, Lithium, uses

(electrode having metal vanadium oxide nanoparticles for
 alkali metal-containing electrochem. cells)

IT 7440-44-0, Carbon, uses

(glassy; electrode having metal vanadium oxide
 nanoparticles for alkali metal-containing electrochem
 . cells)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon				WO 0135473 A1	HCAPLUS
Anon				EP 1207567 A2	HCAPLUS
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)					

=> D L100 1-6 IBIB ABS HITSTR HITIND RETABLE

L100 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:1350091 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:72277
 TITLE: Membrane-electrode assembly for fuel
 cell
 INVENTOR(S): Kim, Hee-Tak; Min, Myoung-Ki
 PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050287419	A1	20051229	US 2005-126923	20050511
			<--	
KR 536257	B1	20051206	KR 2004-49418	20040629
			<--	
CN 1716664	A	20060104	CN 2005-10075563	20050606
			<--	
CN 100452506	C	20090114		
JP 2006019290	A	20060119	JP 2005-190177	20050629
			<--	
JP 4369904	B2	20091125		
PRIORITY APPLN. INFO.:			KR 2004-49418	A 20040629
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Disclosed is a membrane-electrode assembly for a fuel cell including an anode and a cathode with a polymer electrolyte membrane placed between them. At least one of the anode and the cathode includes a catalyst layer including a catalyst metal with a hydrophilic polymer layer on the catalyst metal.

IT 12623-53-9 12779-05-4 12782-98-8
50942-39-7

(membrane-electrode assembly for fuel cell)

RN 12623-53-9 HCAPLUS

CN Nickel alloy, nonbase, Ni,Pt (CA INDEX NAME)

Component	Component Registry Number
-----------	------------------------------

=====+=====

Ni	7440-02-0
Pt	7440-06-4

RN 12779-05-4 HCAPLUS

CN Platinum alloy, nonbase, Pt,Ru (CA INDEX NAME)

Component	Component Registry Number
-----------	------------------------------

=====+=====

Pt	7440-06-4
Ru	7440-18-8

RN 12782-98-8 HCAPLUS

CN Copper alloy, nonbase, Cu,Pt (CA INDEX NAME)

Component	Component Registry Number
-----------	------------------------------

=====+=====

Cu	7440-50-8
Pt	7440-06-4

RN 50942-39-7 HCAPLUS

CN Chromium alloy, nonbase, Cr,Pt (CA INDEX NAME)

Component	Component Registry Number
-----------	------------------------------

=====+=====

Cr	7440-47-3
Pt	7440-06-4

IT 25249-16-5 26570-48-9, Polyethylene oxide
diacrylate

(membrane-electrode assembly for fuel cell)

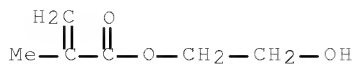
RN 25249-16-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, homopolymer (CA
INDEX NAME)

CM 1

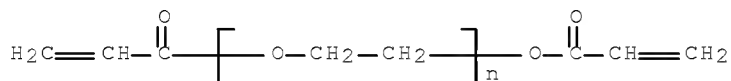
CRN 868-77-9

CMF C6 H10 O3



RN 26570-48-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



IC ICM H01M0008-00

INCL 429040000; 429012000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST fuel cell membrane electrode assembly

IT Catalysts

(electrocatalysts; membrane-electrode assembly for fuel cell)

IT Polyoxyalkylenes, uses

(fluorine- and sulfo-containing, ionomers; membrane-electrode assembly for fuel cell)

IT Fuel cell electrodes

Fuel cell electrolytes

Fuel cells

(membrane-electrode assembly for fuel cell)

IT Transition metal alloys

(membrane-electrode assembly for fuel cell)

IT Polyamides, uses

(membrane-electrode assembly for fuel cell)

IT Polyethers, uses

(membrane-electrode assembly for fuel cell)

IT Polyoxyalkylenes, uses

(membrane-electrode assembly for fuel cell)

IT Alcohols, uses

(polyhydric; membrane-electrode assembly for fuel cell)

IT Carboxylic acids, uses

Sulfonic acids, uses

(polymers; membrane-electrode assembly for fuel cell)

IT Fluoropolymers, uses

(polyoxyalkylene-, sulfo-containing, ionomers; membrane-electrode assembly for fuel cell)

IT Ionomers

(polyoxyalkylenes, fluorine- and sulfo-containing; membrane-electrode assembly for fuel cell)

IT Polymers, uses

(sulfo-containing; membrane-electrode assembly for fuel cell)

IT 7440-06-4, Platinum, uses 12623-53-9 12779-05-4
12782-98-8 50942-39-7

(membrane-electrode assembly for fuel cell)

IT 9000-11-7, CMC 9002-81-7, Polymethylene oxide 9002-89-5, Polyvinyl alcohol 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide

9004-32-4, Sodium CMC 9004-34-6, Cellulose, uses 9004-67-5, Methyl cellulose 25014-12-4, Polymethacrylamide 25087-26-7, Polymethacrylic acid 25213-24-5, Vinyl acetate-vinyl alcohol copolymer 25249-16-5 25322-68-3 25322-69-4, Polypropylene oxide 26022-14-0, Poly(hydroxyethyl acrylate) 26570-48-9, Polyethylene oxide diacrylate 41206-69-3 50851-57-5, Polystyrene sulfonic acid 62487-95-0, Poly(hydroxymethyl acrylate)

(membrane-electrode assembly for fuel cell)

IT 163294-14-2, Nafion 112

(membrane-electrode assembly for fuel cell)

L100 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2002:693430 HCAPLUS Full-text

DOCUMENT NUMBER: 137:235216

TITLE: Nonaqueous electrolyte battery

INVENTOR(S): Imachi, Naoki; Nakane, Ikuro; Oikawa, Satoshi

PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
JP 2002260738	A	20020913	JP 2001-55155	20010228
			<--	
JP 3619784	B2	20050216		
PRIORITY APPLN. INFO.:			JP 2001-55155	20010228
			<--	

OTHER SOURCE(S): MARPAT 137:235216

AB The battery is a secondary Li battery using a nonaq. electrolyte solution-containing polymer electrolyte, hardened by a composition containing acryloyl group CH₂:C(R)COO- (R = H or alkyl group), and a radical polymerization initiator, which draws H from the acryloyl group at a cathode potential ≥4.4V. The initiator is preferably R₄CHR₅R₆, where R₆ = Ph or aromatic group, R₄ and R₅ = H, alkyl, alkenyl, alkynyl, aralkyl, aryl, or heterocyclic groups and may join together forming a ring. The cathode potential induced polymerization increased battery safety.

IT 57636-10-9, Poly(ethylene glycol) diacrylate, homopolymer
69067-16-9 87105-87-1 94457-89-3,

Poly(propylene glycol) diacrylate, homopolymer

(secondary lithium batteries containing cathode

potential induced initiators for polymerization of electrolytes for safety)

RN 57636-10-9 HCAPLUS

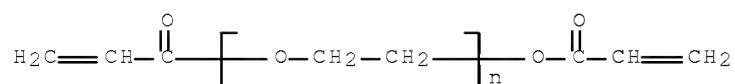
CN Poly(oxy-1,2-ethanediyl), α-(1-oxo-2-propen-1-yl)-ω-[(1-oxo-2-propen-1-yl)oxy]-, homopolymer (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)_n C6 H6 O3

CCI PMS



RN 69067-16-9 HCAPLUS

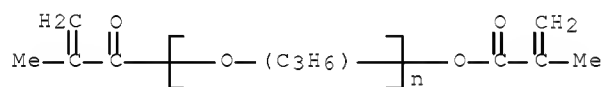
CN Poly[oxy(methyl-1,2-ethanediyl)],
 α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-
propen-1-yl)oxy]-, homopolymer (CA INDEX NAME)

CM 1

CRN 25852-49-7

CMF (C3 H6 O)_n C8 H10 O3

CCI IDS, PMS



RN 87105-87-1 HCAPLUS

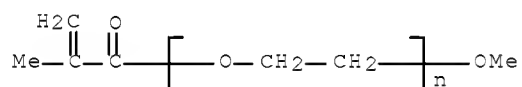
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy-, homopolymer (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS



RN 94457-89-3 HCAPLUS

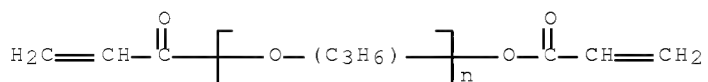
CN Poly[oxy(methyl-1,2-ethanediyl)],
 α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]-,
homopolymer (CA INDEX NAME)

CM 1

CRN 52496-08-9

CMF (C3 H6 O)_n C6 H6 O3

CCI IDS, PMS



IT 39300-70-4, Lithium nickel oxide 39457-42-6,
 Lithium manganese oxide 52627-24-4, Cobalt lithium oxide
 (secondary lithium batteries containing cathode
 potential induced initiators for polymerization of electrolytes for
 safety)

RN 39300-70-4 HCAPLUS

CN Lithium nickel oxide (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	x	17778-80-2
Ni	x	7440-02-0
Li	x	7439-93-2

RN 39457-42-6 HCAPLUS

CN Lithium manganese oxide (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	x	17778-80-2
Mn	x	7439-96-5
Li	x	7439-93-2

RN 52627-24-4 HCAPLUS

CN Cobalt lithium oxide (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Li	x	7439-93-2

IC ICM H01M0010-40

ICS H01M0004-02

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST secondary lithium battery polymer electrolyte radical polymn
 initiator; safety cathode potential induced electrolyte
 polymn lithium battery; acryloyl polymer electrolyte
 secondary lithium battery

IT Secondary batteries

(lithium; secondary lithium batteries containing
 cathode potential induced initiators for polymerization of
 electrolytes for safety)

IT Polymerization

(radical; secondary lithium batteries containing
 cathode potential induced initiators for polymerization of
 electrolytes for safety)

IT Safety

(secondary lithium batteries containing cathode
 potential induced initiators for polymerization of electrolytes for

safety)
 IT 57636-10-9, Poly(ethylene glycol) diacrylate, homopolymer
 69067-16-9 87105-87-1 94457-89-3,
 Poly(propylene glycol) diacrylate, homopolymer 97008-69-0
 (secondary lithium batteries containing cathode
 potential induced initiators for polymerization of electrolytes for
 safety)
 IT 39300-70-4, Lithium nickel oxide 39457-42-6,
 Lithium manganese oxide 52627-24-4, Cobalt lithium oxide
 (secondary lithium batteries containing cathode
 potential induced initiators for polymerization of electrolytes for
 safety)
 IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
 21324-40-3, Lithium hexafluorophosphate
 (secondary lithium batteries containing cathode
 potential induced initiators for polymerization of electrolytes for
 safety)
 IT 827-52-1, Cyclohexylbenzene
 (secondary lithium batteries containing cathode
 potential induced initiators for polymerization of electrolytes for
 safety)

L100 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2002:172424 HCAPLUS Full-text
 DOCUMENT NUMBER: 136:234631
 TITLE: Gel electrolyte lithium battery with
 improved safety and reliability
 INVENTOR(S): Lee, Yong-beom
 PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

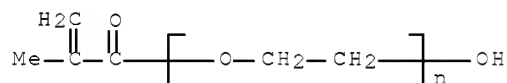
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020028388	A1	20020307	US 2001-938302	20010824
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US 6680147	B2	20040120		
KR 2002019212	A	20020312	KR 2000-52364	20000905
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KR 2002019213	A	20020312	KR 2000-52365	20000905
			<--	
CN 1341977	A	20020327	CN 2001-123114	20010713
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CN 100414765	C	20080827		
JP 2002151150	A	20020524	JP 2001-269134	20010905
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JP 4418134	B2	20100217		
PRIORITY APPLN. INFO.:			KR 2000-52364	A 20000905
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			KR 2000-52365	A 20000905
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

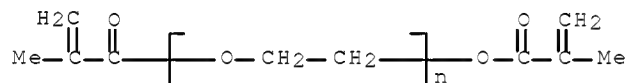
AB A lithium battery which includes an electrode assembly having a cathode, an anode and a separator interposed between the cathode and the anode, a gel electrolyte prepared by curing a composition consisting of a polysiloxane compound or a polysiloxane-polyoxyalkylene compound, a polyethylene glycol

derivative, and an organic solvent containing a lithium salt. The lithium battery has improved reliability and safety since a swelling phenomenon due to an electrolytic solution is effectively suppressed and leakage of the electrolytic solution is prevented.

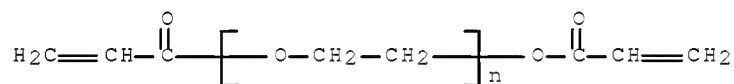
- IT 25736-86-1, Polyethylene glycol monomethacrylate
 25852-47-5, Polyethylene glycol dimethacrylate
 26570-48-9, Polyethylene glycol diacrylate
 (gel electrolyte lithium battery with improved safety and reliability)
 RN 25736-86-1 HCAPLUS
 CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -hydroxy- (CA INDEX NAME)



- RN 25852-47-5 HCAPLUS
 CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



- RN 26570-48-9 HCAPLUS
 CN Poly(oxy-1,2-ethanediyl), α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



- IT 12190-79-3, Cobalt lithium oxide colio2
 (gel electrolyte lithium battery with improved safety and reliability)
 RN 12190-79-3 HCAPLUS
 CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

IC ICM H01M0010-40
INCL 429303000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST lithium battery gel electrolyte improved safety reliability;
safety improvement lithium battery gel electrolyte
IT Polysiloxanes, uses
(acrylic; gel electrolyte lithium battery with improved
safety and reliability)
IT Polyoxyalkylenes, uses
(derivative; gel electrolyte lithium battery with improved
safety and reliability)
IT Battery electrolytes
Polymer electrolytes
Safety
(gel electrolyte lithium battery with improved safety and
reliability)
IT Polysiloxanes, uses
(gel electrolyte lithium battery with improved safety and
reliability)
IT Fluoropolymers, uses
(gel electrolyte lithium battery with improved safety and
reliability)
IT Secondary batteries
(lithium; gel electrolyte lithium battery with improved
safety and reliability)
IT Carbon fibers, uses
(meso-; gel electrolyte lithium battery with improved
safety and reliability)
IT Polymerization
(photopolymn., or electron-beam; gel electrolyte lithium
battery with improved safety and reliability)
IT Electron beams
UV radiation
(polymerization induced by; gel electrolyte lithium battery with
improved safety and reliability)
IT Polysiloxanes, uses
(polyoxyalkylene-; gel electrolyte lithium battery with
improved safety and reliability)
IT Polyoxyalkylenes, uses
(polysiloxane-; gel electrolyte lithium battery with
improved safety and reliability)
IT Polymerization
(thermal; gel electrolyte lithium battery with
improved safety and reliability)
IT 7440-44-0, Super p, uses
(activated; gel electrolyte lithium battery with improved
safety and reliability)
IT 25322-68-3D, Polyethylene glycol, derivative 25736-86-1,
Polyethylene glycol monomethacrylate 25852-47-5,
Polyethylene glycol dimethacrylate 26403-58-7, Polyethylene glycol
monoacrylate 26570-48-9, Polyethylene glycol diacrylate
(gel electrolyte lithium battery with improved safety and
reliability)
IT 96-48-0, γ -Butyrolactone 96-49-1, Ethylene carbonate
105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate
112-49-2, Triglyme 143-24-8, Tetraglyme 616-38-6, Dimethyl
carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene
carbonate 7429-90-5, Aluminum, uses 7440-50-8, Copper, uses
7791-03-9, Lithium perchlorate 9002-88-4, Polyethylene

12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6

(gel electrolyte lithium battery with improved safety and reliability)

IT 28961-43-5D, ethoxylated

(gel electrolyte lithium battery with improved safety and reliability)

IT 402934-96-7P, α -[Dimethyl(3-methoxypropyl)silyl]- ω -

[[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propoxy]silyl]oxy]poly[oxy(dimethylsilylene)]-polyethylene glycol dimethacrylate-polyethylene glycol monomethacrylate-ethoxylated trimethylolpropane triacrylate copolymer 402934-98-9P

(gel electrolyte lithium battery with improved safety and reliability)

IT 24937-79-9, PvdF

(gel electrolyte lithium battery with improved safety and reliability)

IT 78-67-1, Azobisisobutyronitrile 94-36-0, Benzoyl peroxide, processes 105-74-8, Lauroyl peroxide 110-22-5, Acetyl peroxide 119-61-9, Benzophenone, processes

(polymerization initiator; gel electrolyte lithium battery with improved safety and reliability)

OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITINGS)

L100 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1999:407111 HCAPLUS Full-text

DOCUMENT NUMBER: 131:102668

TITLE: Polymerizable compositions containing acid-sensitive polymerization initiators and their application to solid electrolytes

INVENTOR(S): Takeuchi, Masataka; Naijo, Shuichi; Tokita, Koji

PATENT ASSIGNEE(S): Showa Denko K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11171912	A	19990629	JP 1997-343252	19971212

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PRIORITY APPLN. INFO.: JP 1997-343252 19971212

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OTHER SOURCE(S): MARPAT 131:102668

AB Title compns. contain ≥ 1 polymerizable compds. and ≥ 1 acid-sensitive polymerization initiator precursors and the solid electrolytes are those prepared by polymerization of the compds. after decomposition of the polymerization initiator precursors by acids or heating. The electrolytes are suitable for battery electrodes containing electrode active masses, for elec. double layer capacitors containing polar materials, and the batteries and capacitors themselves and manufacture of them are also claimed. Thus, polyethylene glycol dimethacrylate (Blemmer PDE 600) 1.2, Al₂O₃ (Aluminum oxide C) 0.33, ethylene carbonate 1.8, Et Me carbonate 4.2, LiPF₆ 0.60, and Bu₄N⁺ BuPh₃B⁻ 0.005 g were mixed under Ar, applied on a PET film, and left for

30 min in Ar to give a composite film having ion conductivity 2.5×10^{-3} and 0.7×10^{-3} S/cm at 25 and -20° , resp.

IT 12190-79-3, Lithium cobalt oxide (LiCoO₂)

(cathode active mass; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)

RN 12190-79-3 HCAPLUS

CN Cobalt lithium oxide (CoLiO₂) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

IT 112760-18-6, KW 2200

(fillers; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)

RN 112760-18-6 HCAPLUS

CN Aluminum magnesium oxide (Al_{0.3}Mg_{0.7}O_{1.15}) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	1.15	17778-80-2
Mg	0.7	7439-95-4
Al	0.3	7429-90-5

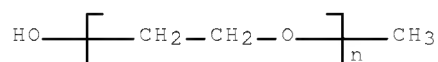
IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction product with isocyanatoethyl methacrylate, polymers

9051-34-7P 30674-80-7DP, reaction product with ethylene oxide-propylene oxide copolymer 37105-87-1P

(monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)

RN 9004-74-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -hydroxy- (CA INDEX NAME)



RN 9051-34-7 HCAPLUS

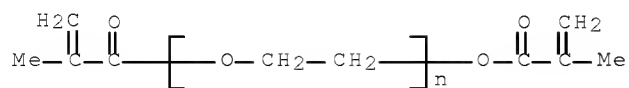
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer (CA INDEX NAME)

CM 1

CRN 25852-47-5

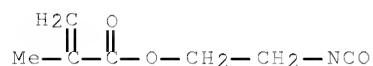
CMF (C₂ H₄ O)_n C₈ H₁₀ O₃

CCI PMS



RN 30674-80-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester (CA INDEX NAME)



RN 87105-87-1 HCAPLUS

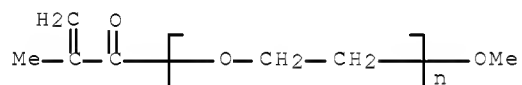
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy-, homopolymer (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS



IC ICM C08F0004-12

ICS C08F0299-00; H01B0001-12; H01G0009-025; H01M0004-02; H01M0004-04;
H01M0004-06; H01M0006-18; H01M0010-40

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 52, 76

ST polymerizable compn acid sensitive polymn initiator; solid electrolyte
monomer compn polymn initiator; polyethylene glycol dimethacrylate
solid electrolyte precursor; butyltriphenylborate tetrabutylammonium
polymn initiator precursor; ~~battery~~ electrode solid
electrolyte polymerizable compn; double layer capacitor electrolyte
polymerizable compn

IT Polycarbonates, preparation

Polyoxyalkylenes, preparation

(acrylic; monomer composition containing acid-sensitive polymerization
initiatorprecursors for solid electrolytes for ~~batteries~~ and
double layer capacitors)

IT Fluoropolymers, uses

(anode; monomer composition containing acid-sensitive polymerization
initiator precursors for solid electrolytes for ~~batteries~~
and double layer capacitors)

- IT Capacitors
(double layer; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Acids, uses
Alkali metal salts
Phosphonium compounds
Quaternary ammonium compounds, uses
Transition metal salts
(electrolytes; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Carbon fibers, uses
(graphite, battery anode; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Secondary batteries
(lithium; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Polymerization catalysts
Solid electrolytes
(monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 26403-58-7DP, polymer with ethylene oxide-propylene oxide copolymer adduct with isocyanatoethyl methacrylate
(Blemmer AE 400; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 24937-79-9
(anode; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 12190-79-3, Lithium cobalt oxide (LiCoO₂)
(cathode active mass; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
(electrolyte; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 1344-28-1, Aluminum oxide (Al₂O₃), uses 112760-18-6, KW 2200
(fillers; monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 143-66-8, Sodium tetraphenylborate 429-06-1, Tetraethylammonium tetrafluoroborate 120307-06-4, Tetrabutylammonium butyltriphenylborate 189947-86-2 228863-57-8
(monomer composition containing acid-sensitive polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction

product with isocyanatoethyl methacrylate, polymers
9051-34-7P 9082-00-2DP, Ethylene oxide-propylene oxide
copolymer glycerin ether, reaction product with isocyanatoethyl
methacrylate, polymers 30674-80-7DP, reaction product with
ethylene oxide-propylene oxide copolymer 50862-75-4DP,
Poly(oxy-carbonyloxy-1,3-propanediyl), reaction product with
isocyanatoethyl methacrylate, polymers 87105-87-1P
228863-58-9DP, reaction product with isocyanatoethyl methacrylate,
polymers

(monomer composition containing acid-sensitive polymerization initiator
precursors

for solid electrolytes for batteries and double layer
capacitors)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7,
Propylene carbonate 623-53-0, Ethyl methyl carbonate
(solvent; monomer composition containing acid-sensitive polymerization
initiator

precursors for solid electrolytes for batteries and
double layer capacitors)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS
RECORD (4 CITINGS)

L100 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1999:407110 HCAPLUS Full-text

DOCUMENT NUMBER: 131:102667

TITLE: Electrochemically polymerizable
compositions for solid electrolytes

INVENTOR(S): Takeuchi, Masataka; Ohkubo, Takashi; Yabe, Shoji

PATENT ASSIGNEE(S): Showa Denko K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11171910	A	19990629	JP 1997-343251	19971212

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PRIORITY APPLN. INFO.: JP 1997-343251 19971212

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OTHER SOURCE(S): MARPAT 131:102667

AB Title compns. contain ≥ 1 polymerizable compds. and ≥ 1 electrochem.
decomposable polymerization initiator precursors and the solid electrolytes
are those prepared by polymerization of the compds. The electrolytes are
suitable for battery electrodes containing electrode active masses, for elec.
double layer capacitors containing polar materials, and the batteries and
capacitors themselves and manufacture of them are also claimed. Thus,
polyethylene glycol dimethacrylate (Blemmer PDE 600) 1.2, Al₂O₃ (Aluminum
oxide C) 0.33, ethylene carbonate 1.8, Et Me carbonate 4.2, LiBF₄ 0.45, and
Bu₄N⁺ BuPh₃B⁻ 0.005 g were mixed under Ar to give title composition, which was
applied on a Pt film then the film was laminated with another Pt film, charged
(4 V) for 1 min, and left at room temperature for 15 min to give a composite
film having ion conductivity 1.5×10^{-3} and 0.3×10^{-3} S/cm at 25 and -20°,
resp.

IT 12190-79-3, Lithium cobalt oxide (LiCoO₂)
(cathode active mass; monomer composition containing
electrochem decomposable polymerization initiator precursors for
solid electrolytes for batteries and double layer

capacitors)

RN 12190-79-3 HCAPLUS

CN Cobalt lithium oxide (CoLiO₂) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
=====	=====	=====
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

IT 112760-18-6, KW 2200

(fillers; monomer composition containing ~~electrochem~~ decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)

RN 112760-18-6 HCAPLUS

CN Aluminum magnesium oxide (Al_{0.3}Mg_{0.7}O_{1.15}) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
=====	=====	=====
O	1.15	17778-80-2
Mg	0.7	7439-95-4
Al	0.3	7429-90-5

IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction

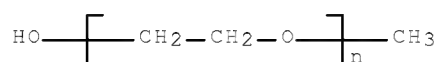
product with isocyanatoethyl methacrylate, polymers

9051-34-7P 30674-80-7DP, reaction product with

ethylene oxide-propylene oxide copolymer 87105-87-1P

(monomer composition containing ~~electrochem~~ decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)

RN 9004-74-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -hydroxy- (CA INDEX NAME)

RN 9051-34-7 HCAPLUS

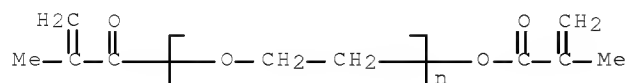
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer (CA INDEX NAME)

CM 1

CRN 25852-47-5

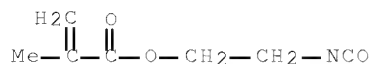
CMF (C₂ H₄ O)_n C₈ H₁₀ O₃

CCI PMS



RN 30674-80-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester (CA INDEX NAME)



RN 87105-87-1 HCAPLUS

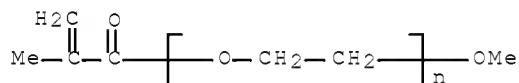
CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy-, homopolymer (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)_n C5 H8 O2

CCI PMS



IC ICM C08F0002-58

ICS H01B0001-12; H01G0009-025; H01M0004-02; H01M0004-04; H01M0004-06;
 H01M0006-18; H01M0010-40; C08F0020-10; C08F0299-02

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 52, 76

ST polymerizable compn ~~electrochem~~ decomposable polymn

initiator; solid electrolyte monomer compn polymn initiator;

polyethylene glycol dimethacrylate solid electrolyte precursor;

butyltriphenylborate tetrabutylammonium polymn initiator precursor;

battery electrode solid electrolyte polymerizable compn;

double layer capacitor electrolyte polymerizable compn

IT Polycarbonates, preparation

Polyoxyalkylenes, preparation

(acrylic; monomer composition containing ~~electrochem~~ decomposable

polymerization initiator precursors for solid electrolytes for

batteries and double layer capacitors)

IT Fluoropolymers, uses

Fluoropolymers, uses

(anode from; monomer composition containing ~~electrochem~~

decomposable polymerization initiator precursors for solid electrolytes

for batteries and double layer capacitors)

IT Capacitors

(double layer; monomer composition containing ~~electrochem~~

decomposable polymerization initiator precursors for solid electrolytes

for batteries and double layer capacitors)

IT Alkali metal salts

Quaternary ammonium compounds, uses

(electrolyte; monomer composition containing ~~electrochem~~

- decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Acids, uses
Phosphonium compounds
Transition metal salts
(electrolytes; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Carbon fibers, uses
(graphite, battery anode; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Secondary batteries
(lithium; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT Polymerization catalysts
Solid electrolytes
(monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 26403-58-7DP, polymer with ethylene oxide-propylene oxide copolymer adduct with isocyanatoethyl methacrylate
(Blemmer AE 400; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 24937-79-9
(anode from; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 12190-79-3, Lithium cobalt oxide (LiCoO₂)
(cathode active mass; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 429-06-1, Tetraethylammonium tetrafluoroborate 69444-47-9, Triethylmethyammonium tetrafluoroborate
(electrolyte; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 1344-28-1, Aluminum oxide (Al₂O₃), uses 112760-18-6, KW 2200
(fillers; monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 143-66-8, Sodium tetraphenylborate 120307-06-4, Tetrabutylammonium butyltriphenylborate 189947-86-2 228863-57-8
(monomer composition containing electrochem decomposable polymerization initiator precursors for solid electrolytes for batteries and double layer capacitors)
- IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction product with isocyanatoethyl methacrylate, polymers 9051-34-7P 9082-00-2DP, Ethylene oxide-propylene oxide copolymer glycerin ether, reaction product with isocyanatoethyl methacrylate, polymers 30674-80-7DP, reaction product with ethylene oxide-propylene oxide copolymer 50862-75-4DP, Poly(oxy-carbonyloxy-1,3-propanediyl), reaction product with isocyanatoethyl methacrylate, polymers 87105-87-1P 228863-58-9DP, reaction product with isocyanatoethyl methacrylate,

polymers

(monomer composition containing electrochem decomposable polymerization
initiator precursors for solid electrolytes for batteries
and double layer capacitors)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7,
Propylene carbonate 623-53-0, Ethyl methyl carbonate
(solvent; monomer composition containing electrochem decomposable
polymerization initiator precursors for solid electrolytes for
batteries and double layer capacitors)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
RECORD (2 CITINGS)

L100 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1994:683576 HCAPLUS Full-text

DOCUMENT NUMBER: 121:283576

ORIGINAL REFERENCE NO.: 121:51723a,51726a

TITLE: Ion conductive polymer batteries and
their manufacture

INVENTOR(S): Takeda, Kazunari; Izuchi, Syuichi

PATENT ASSIGNEE(S): Yuasa Corporation, Japan

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

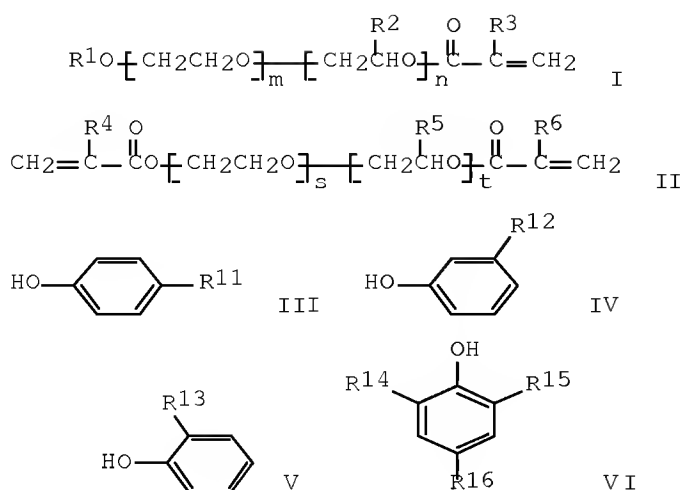
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
WO 9419840	A1	19940901	WO 1994-JP246	19940218
			<--	
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 643434	A1	19950315	EP 1994-907069	19940218
			<--	
EP 643434	B1	19991020		
R: DE, FR, GB				
JP 3136610	B2	20010219	JP 1994-518818	19940218
			<--	
CA 2118401	C	20040817	CA 1994-2118401	19940218
			<--	
US 5658687	A	19970819	US 1994-318834	19941018
			<--	
PRIORITY APPLN. INFO.:			JP 1993-59631	A 19930223
			<--	
			JP 1993-62994	A 19930225
			<--	
			JP 1993-75262	A 19930308
			<--	
			JP 1993-75263	A 19930308
			<--	
			WO 1994-JP246	W 19940218
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

GI



AB The batteries use ion conductive polymer cathodes, ion conductive electrolyte, and anodes which may also contain an ion conductive polymer; where the concentration of SO₄²⁻, p-toluenesulfonate ion, Cl⁻, PEG, acrylic acid and/or methacrylic acid, left from the manufacture of the polymer, in the batteries is controlled at <0.1 weight%. A 2nd type Li⁺ conductive batteries contain <0.1 weight% alkali metal ions other than Li⁺ and multivalent metal ions, and a 3rd type batteries contain <0.1 weight% radical capturing agents. The ion conductive polymer are the polymerization product of I (R¹, R², R³ = H or C>1 lower alkyl group, m ≥ 1, n ≥ 0, and n/m = 0-5) and/or II (R⁴, R⁵, R⁶ = H or C>1 lower alkyl group, s ≥ 3, t ≥ 0, and t/s = 0-5) in the presence of ≥ 1 ionic compound; the metal ions may Na⁺, K⁺, Ca²⁺, Fe²⁺, Cu²⁺, Ni³⁺, Fe³⁺, Co³⁺, or Cr³⁺; and the radical capturing agent is selected from III (R¹¹ = C>1 alkyl, alkoxyl, or OH group), IV (R¹² = C>1 alkyl, alkoxyl, or OH group), V (R¹³ = C>1 alkyl, alkoxyl, or OH group), and VI (R¹⁴, R¹⁵, R¹⁶ = C>1 alkyl, alkoxyl, or OH group). These batteries have high capacity and low internal impedance.

IT 12190-79-3, Lithium cobalt oxide (LiCoO₂)

26570-48-9, Polyoxyethylene diacrylate

(batteries with electrodes and electrolytes containing ion conductive polymers and their manufacture)

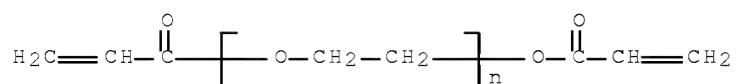
RN 12190-79-3 HCAPLUS

CN Cobalt lithium oxide (CoLiO₂) (CA INDEX NAME)

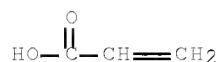
Component	Ratio	Component
		Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

RN 26570-48-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-(1-oxo-2-propen-1-yl)-ω-[(1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



IT 79-10-7, Acrylic acid, miscellaneous
 (impurity; ion conductive polymer batteries with
 suppressed content of impurities from polymer manufacture)
 RN 79-10-7 HCAPLUS
 CN 2-Propenoic acid (CA INDEX NAME)



IC ICM H01M0010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38
 ST battery ion conductive polymer electrode; electrolyte ion
 conductive polymer battery
 IT Batteries, secondary
 (ion conductive polymer batteries with suppressed content
 of impurities from polymer manufacture)
 IT 7791-03-9, Lithium perchlorate 12190-79-3, Lithium cobalt
 oxide (LiCoO₂) 26570-48-9, Polyoxyethylene diacrylate
 32171-39-4
 (batteries with electrodes and electrolytes containing ion
 conductive polymers and their manufacture)
 IT 1313-13-9, Manganese dioxide, uses
 (cathodes; batteries with electrodes and
 electrolytes containing ion conductive polymers and their manufacture)
 IT 79-10-7, Acrylic acid, miscellaneous 14127-61-8, Calcium
 ion, miscellaneous 14701-22-5, Nickel ion, miscellaneous
 14808-79-8, Sulfate, miscellaneous 15438-31-0, Iron ion (Fe²⁺),
 miscellaneous 16065-83-1, Chromium ion (Cr³⁺), miscellaneous
 16722-51-3, p-Toluenesulfonate, miscellaneous 16887-00-6, Chloride,
 miscellaneous 17341-25-2, Sodium ion, miscellaneous 20074-52-6,
 Iron ion (Fe³⁺), miscellaneous 22541-53-3, Cobalt ion, miscellaneous
 24203-36-9, Potassium ion, miscellaneous 25322-68-3, Polyoxyethylene
 (impurity; ion conductive polymer batteries with
 suppressed content of impurities from polymer manufacture)
 IT 128-37-0, 2,6-Di-tert-butyl-4-methyl phenol, uses 150-76-5,
 4-Methoxyphenol
 (radical capturing agent; ion conductive polymer batteries
 with suppressed content of impurities from polymer manufacture)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon				JP 1107471 A	
Anon				JP 2040867 A	
Anon				JP 4060304 B	HCAPLUS

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

=> D L101 1-6 IBIB ABS HITSTR HITIND RETABLE

L101 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:755083 HCAPLUS Full-text

DOCUMENT NUMBER: 139:279082

TITLE: Method of controlling voltage of nonaqueous electrolyte lithium secondary battery

INVENTOR(S): Sato, Takaya; Sakano, Kimiyo; Maruo, Tatsuya; Nozu, Ryutaro; Takagi, Kentaro

PATENT ASSIGNEE(S): Nisshin Spinning Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

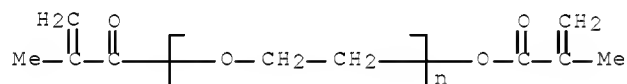
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2003272706	A	20030926	JP 2002-67270	20020312
			<--	
JP 4081569	B2	20080430		
PRIORITY APPLN. INFO.:			JP 2002-67270	20020312
			<--	

AB The process is to control voltage of a nonaq. electrolyte lithium secondary battery charged over the rated voltage, wherein a substance oxidized at the pos. electrode by the over charging is added to the nonaq. electrolyte and allowed to be oxidized, thereby controlling the battery voltage to 4.1-5.2 V.

IT 25852-47-5, NK Ester 9G 26915-72-0,
Methoxypolyethylene glycol methacrylate
(method of controlling voltage of nonaq. electrolyte lithium secondary battery)

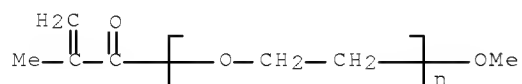
RN 25852-47-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



RN 26915-72-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -methoxy- (CA INDEX NAME)



IC ICM H01M0010-40

ICS H01M0002-16; H01M0010-44
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST control voltage nonaq electrolyte lithium secondary battery
 IT Secondary batteries
 (lithium; method of controlling voltage of nonaq. electrolyte
 lithium secondary battery)
 IT 3290-92-4, Trimethylolpropane trimethacrylate 15625-89-5, NK Ester
 A-TMPT 25721-76-0, Polyethylene glycol dimethacrylate
 25852-47-5, NK Ester 9G 26915-72-0,
 Methoxypolyethylene glycol methacrylate 45103-58-0, NK Ester M20G
 (method of controlling voltage of nonaq. electrolyte lithium
 secondary battery)

L101 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2002:522481 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:96288
 TITLE: Polymeric gel electrolyte, lithium battery
 using the same, and methods of manufacturing the
 electrolyte and the lithium battery
 INVENTOR(S): Noh, Liyeong-gon; Kim, Ki-ho
 PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 20020090555	A1	20020711	US 2001-1994	20011205
			<--	
US 6811929	B2	20041102		
JP 2002207203	A	20020726	JP 2001-669	20010105
			<--	
JP 3858594	B2	20061213		
PRIORITY APPLN. INFO.:			JP 2001-669	A 20010105
			<--	

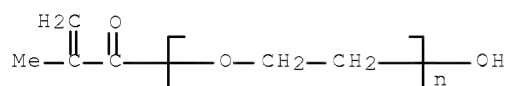
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A Li battery having a cathode, an anode, and a separator interposed between the cathode and the anode is described where the separator is an insulating resin sheet having a network structure and containing a polymeric gel electrolyte. The polymer electrolyte is prepared by polymerizing a polymer electrolyte precursor having a polymer $-(C_2H_4O)_x-(CH_2CHO(CH_2O(C_2H_2O)_2R))_y-(CH_2CHO(CH_2OCH_2CH:CH_2))_z-$, a crosslinking agent $R_1C(:CH_2)C(:O)O-(CH_2CH_2O)_n-COC(:CH_2)R_1$, and an electrolyte solution composed of a Li salt and a nonaq. organic solvents ($x = 0.1-0.6$ mol, $y = 0.1-0.8$ mol, $z = 0.1-0.8$ mol, $R = C_1-6$ -alkyl, $n = 3-30$, $R_1 = H$ or Me). The battery has improved charging/discharging rate characteristics.

IT 25736-86-1 25852-47-5
 (crosslinking agent; polymeric gel electrolyte, lithium
 battery using same, and methods of manufacturing electrolyte and
 lithium battery)

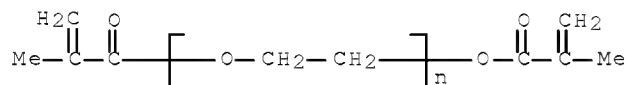
RN 25736-86-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -hydroxy- (CA INDEX NAME)



RN 25852-47-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



IC ICM H01M0010-40

INCL 429303000

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 35, 37

ST polymeric electrolyte lithium battery polyethylene glycol

IT Polyoxyalkylenes, uses
 (crosslinked; polymeric gel electrolyte, lithium battery
 using same, and methods of manufacturing electrolyte and lithium
 battery)

IT Secondary batteries
 (lithium; polymeric gel electrolyte, lithium battery
 using same, and methods of manufacturing electrolyte and lithium
 battery)

IT Battery electrolytes
 Polymer electrolytes
 (polymeric gel electrolyte, lithium battery using same,
 and methods of manufacturing electrolyte and lithium battery)

IT 3278-31-7, 1,4-Phenylenebismaleimide 25736-86-1
 25852-47-5
 (crosslinking agent; polymeric gel electrolyte, lithium
 battery using same, and methods of manufacturing electrolyte and
 lithium battery)

IT 25322-68-3D, Polyethylene glycol, crosslinked
 (polymeric gel electrolyte, lithium battery using same,
 and methods of manufacturing electrolyte and lithium battery)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	+	=====	+	=====	+
Anon	1998			EP 838487 A2	HCAPLUS
Anon	1999			JP 11039940 A	HCAPLUS
Lee	1999			US 5952126 A	HCAPLUS
Miura	2000			US 6159389 A	
Morigaki	1997			US 5597659 A	
Noh	2003			US 6632571 B2	HCAPLUS
Sogo	1997			US 5641565 A	HCAPLUS
Watanabe	2001			US 6180287 B1	HCAPLUS
Yamada	2000			US 6114068 A	HCAPLUS

March 23, 2010

10/593,481

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ACCESSION NUMBER: 1998:406008 HCAPLUS Full-text
DOCUMENT NUMBER: 129:82389
ORIGINAL REFERENCE NO.: 129:17007a,17010a
TITLE: Copolyethers and solid polymer electrolytes and secondary batteries
INVENTOR(S): Watanabe, Masayoshi; Miura, Katsuhito; Yanagida, Masanori; Higobashi, Hiroki; Endo, Takahiro
PATENT ASSIGNEE(S): Daiso Co., Ltd., Japan
SOURCE: PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9825990	A1	19980618	WO 1997-JP4499	19971208
<--				
W: CA, CN, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2244904	A1	19980618	CA 1997-2244904	19971208
<--				
CA 2244904	C	20061128		
EP 885913	A1	19981223	EP 1997-946152	19971208
<--				
EP 885913	B1	20030416		
R: DE, FR, GB, IT				
CN 1210548	A	19990310	CN 1997-192119	19971208
<--				
CN 1094494	C	20021120		
TW 444044	B	20010701	TW 1997-86118417	19971208
<--				
JP 3223978	B2	20011029	JP 1998-526483	19971208
<--				
US 6180287	B1	20010130	US 1998-101971	19980730
<--				
PRIORITY APPLN. INFO.:			JP 1996-328422	A 19961209
<--				
			JP 1996-345244	A 19961225
<--				
			WO 1997-JP4499	W 19971208
<--				

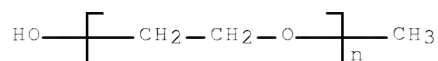
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Solid polymer electrolytes prepared by blending (1) copolyether comprising a main chain derived from ethylene oxide mols. and a side chain having two oligooxyethylene groups with (2) an electrolytic salt and, if necessary, (3) a plasticizer selected from aprotic organic solvents, derivs. and metal salts of polyalkylene glycols having Mn 200-5000, and metal salts of the derivs. are superior to the solid electrolytes of the prior art in ionic conductivity and excellent in processability, moldability and mech. strengths. Secondary batteries can be produced by combining the solid polymer electrolytes with a neg. electrode of metallic lithium and a pos. electrode of cobalt lithium. 2-Glycidoxy-1,3-bis(2-methoxyethoxy)propane and ethylene oxide were copolymerized and cast together with LiClO₄ to give a film with elec. conductivity 8.7 x 10⁻⁴ S/cm.

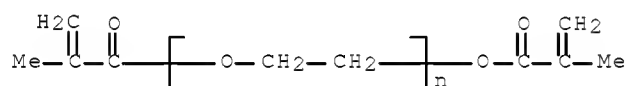
IT 9004-74-4D, lithium and dioctylaluminum complexes
25852-47-5 26570-48-9
(copolyethers and solid polymer electrolytes and secondary

batteries)

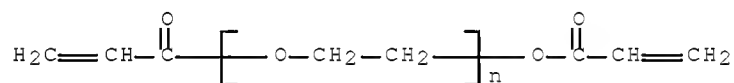
RN 9004-74-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -hydroxy- (CA INDEX NAME)

RN 25852-47-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)- ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)

RN 26570-48-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)

IC ICM C08G0065-22

ICS C08G0065-08; C08G0077-46; C08G0059-22; C08F0299-02; C08L0071-02; C08L0083-12; C08L0063-00; C08K0003-24; C08K0005-42; H01M0006-18; H01M0010-40; H01G0009-025

CC 37-6 (Plastics Manufacture and Processing)

ST polyether solid electrolytessecondary battery

IT Plasticizers

Secondary batteries

Solid electrolytes

(copolyethers and solid polymer electrolytes and secondary batteries)

IT Polyethers, preparation

(copolyethers and solid polymer electrolytes and secondary batteries)

IT Polyoxyalkylenes, uses

(copolyethers and solid polymer electrolytes and secondary batteries)

IT Polysiloxanes, uses

(copolyethers and solid polymer electrolytes and secondary batteries)

IT Glycols, uses

(ethers; copolyethers and solid polymer electrolytes and secondary batteries)

- IT Ethers, uses
(glycol; copolyethers and solid polymer electrolytes and secondary batteries)
- IT Polyoxyalkylenes, uses
(lithium and dioctylaluminum complexes; copolyethers and solid polymer electrolytes and secondary batteries)
- IT 126-73-8DP, Tributyl phosphate, reaction products with tributyltin chloride 1461-22-9DP, Tributyltin chloride, reaction products with tri-Bu phosphate
(copolyethers and solid polymer electrolytes and secondary batteries)
- IT 130670-52-9P, 2,5,9,12-Tetraoxatridecan-7-ol 206443-30-3P
209163-44-0P 209163-45-1P 209163-46-2P 209163-47-3P
209163-48-4P 209163-49-5P 209163-50-8P 209163-51-9P
209163-52-0P 209163-53-1P
(copolyethers and solid polymer electrolytes and secondary batteries)
- IT 206443-31-4P 209163-54-2P 209163-55-3P 209163-56-4P
209163-57-5P 209163-58-6P 209163-60-0P 209163-61-1P
209163-63-3P 209163-64-4P 209163-65-5P 209163-66-6P
209163-67-7P
(copolyethers and solid polymer electrolytes and secondary batteries)
- IT 96-48-0, γ -Butyrolactone 108-32-7 112-49-2, Triethylene glycol dimethyl ether 143-24-8, Tetraethylene glycol dimethyl ether 4353-28-0, Tetraethylene glycol diethyl ether 4437-85-8, Butylene carbonate 4499-99-4, Triethylene glycol diethyl ether 7429-90-5D, Aluminum, polyoxyalkylene complexes, uses 7439-93-2D, Lithium, polyoxyalkylene complexes, uses 7791-03-9, Lithium perchlorate 9004-74-4D, lithium and dioctylaluminum complexes 19836-78-3 24650-42-8 24991-55-7, Polyethylene glycol dimethyl ether 25322-68-3 25322-68-3D, lithium and dioctylaluminum complexes 25322-69-4 25852-47-5 26570-48-9 27274-31-3D, Polyethylene glycol monoallyl ether, lithium and dioctylaluminum complexes 53609-62-4, Polyethylene glycol diethyl ether 59788-01-1, Polyethylene glycol diallyl ether
(copolyethers and solid polymer electrolytes and secondary batteries)
- IT 31900-57-9D, Dimethylsilanediol homopolymer, trimethylsilyl-terminated 42557-10-8, Polyoxydimethylsilylene, trimethylsilyl-terminated 156118-35-3D, Dimethylsilanediol-methylsilanediol copolymer, trimethylsilyl-terminated
(copolyethers and solid polymer electrolytes and secondary batteries)
- IT 106-89-8, reactions 109-86-4, Ethylene glycol monomethyl ether 111-77-3, Diethylene glycol monomethyl ether 13483-49-3, Ethylene glycol glycidyl methyl ether 71712-93-1, Diethylene glycol glycidyl methyl ether 73692-54-3, Triethylene glycol glycidyl methyl ether
(copolyethers and solid polymer electrolytes and secondary batteries)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	+	+	+	+	+
Bailey, F	1967			US 3297783 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			CA 2014442 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			JP 347833 A	
Dai-Ichi Kogyo Seiyaku	1991			EP 392839 A1	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			US 5116541 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			DE 69020777 E	

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Dai-Ichi Kogyo Seiyaku |1991 | | |KR 9501854 B1 |
 Hitachi Maxell Ltd |1990 | | |JP 02295004 A |HCAPLUS
 Osaka Soda Co Ltd |1987 | | |EP 222586 A1 |HCAPLUS
 Osaka Soda Co Ltd |1987 | | |DE 3650211 G |
 Osaka Soda Co Ltd |1987 | | |US 4711950 A |HCAPLUS
 Osaka Soda Co Ltd |1987 | | |JP 62169823 A |HCAPLUS
 Yuasa Corp |1993 | | |JP 05304051 A |HCAPLUS
 OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS
 RECORD (15 CITINGS)

L101 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1998:147370 HCAPLUS Full-text
 DOCUMENT NUMBER: 128:205658
 ORIGINAL REFERENCE NO.: 128:40673a, 40676a
 TITLE: Solid electrolytes derived from branched
 polyoxyethylene polymers
 INVENTOR(S): Miura, Katsuhito; Shoji, Shigeru; Sakashita,
 Takahiro; Matoba, Yasuo
 PATENT ASSIGNEE(S): Daiso Co., Ltd., Japan; Miura, Katsuhito; Shoji,
 Shigeru; Sakashita, Takahiro; Matoba, Yasuo
 SOURCE: PCT Int. Appl., 61 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9807772	A1	19980226	WO 1997-JP2854	19970819
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W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2235166	A1	19980226	CA 1997-2235166	19970819
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CA 2235166	C	20081125		
AU 9738657	A	19980306	AU 1997-38657	19970819
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EP 856538	A1	19980805	EP 1997-935805	19970819
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EP 856538	B1	20021120		
R: CH, DE, ES, FR, GB, IT, LI, NL				
CN 1199408	A	19981118	CN 1997-191109	19970819
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CN 1096481	C	20021218		
BR 9706631	A	19991123	BR 1997-6631	19970819
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TW 446731	B	20010721	TW 1997-86111865	19970819
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JP 3215440	B2	20011009	JP 1998-510574	19970819
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ES 2187803	T3	20030616	ES 1997-935805	19970819
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US 6162563	A	20001219	US 1999-51776	19990311

US 20020012849 A1 20020131 US 2000-739241 20001219
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 PRIORITY APPLN. INFO.: JP 1996-218575 A 19960820
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 JP 1996-249358 A 19960920
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 WO 1997-JP2854 W 19970819
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 US 1999-51776 A1 19990311
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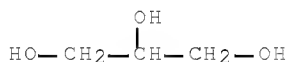
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The solid electrolytes having high ion conductivity, moldability and mech. strengths are prepared by mixing (1) a polyether copolymer having a backbone derived from ethylene oxide and a side chain of oligo-oxyethylene, (2) an electrolyte salt compound, and (3) an aprotic organic solvent, or a plasticizer consisting of a derivative or a metal salt of a polyalkylene glycol having a number-average mol. weight of 200-5000 or a metal salt of the derivative. The electrolytes are useful for making rechargeable secondary batteries containing an anode of a lithium metal and a cathode of lithium cobaltate. Reacting diethylene glycol glycidyl Me ether 42 with ethylene oxide 200 in n-hexane in the presence of Bu3Sn chloride and Bu3PO4 gave a polyether which was mixed with Li perchlorate (I) dissolved in propylene carbonate to a I/ethylene oxide molar ratio of 0.05 and cast in a PTFE mold at 100° and 20 kg/cm2 for 10 min to give a film with conductivity 1.1x10⁻² S/cm at 20°.

IT 56-81-5D, Glycerol, ethers, compds. with pentaerythritol
 (additives; solid electrolyte compns. containing branched polyoxyethylene polymers for secondary battery)

RN 56-81-5 HCAPLUS

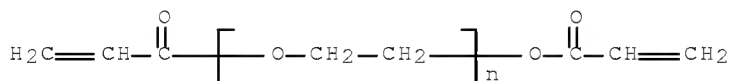
CN 1,2,3-Propanetriol (CA INDEX NAME)



IT 26570-48-9, Polyethylene glycol diacrylate
 (in solid electrolyte compns. containing branched polyoxyethylene polymers for secondary battery)

RN 26570-48-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-(1-oxo-2-propen-1-yl)-ω-[(1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)

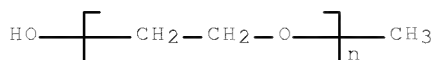


IT 9004-74-4D, Polyethylene glycol monomethyl ether, octylaluminum derivs.
 (plasticizers; in solid electrolyte compns. containing branched polyoxyethylene polymers for secondary battery)

RN 9004-74-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy- (CA INDEX

NAME)



- IC ICM C08G0065-22
ICS C08G0065-08; C08G0077-46; C08G0059-22; C08F0299-02; C08L0071-02;
C08L0083-12; C08L0063-00; C08K0003-24; C08K0005-42; H01M0006-18;
H01M0010-40; H01G0009-025
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 72
- ST polyoxyethylene branched polymer solid electrolyte; ethylene oxide
copolymer solid electrolyte; lithium perchlorate electrolyte
polyoxyethylene blend; secondary battery electrolyte
polyoxyethylene compn
- IT Solvents
(aprotic; solid electrolyte compns. containing branched polyoxyethylene
polymers for secondary battery)
- IT Secondary batteries
(solid electrolyte compns. containing branched polyoxyethylene polymers
for)
- IT Plasticizers
(solid electrolyte compns. containing branched polyoxyethylene polymers
for secondary battery)
- IT Polyoxyalkylenes, uses
(solid electrolyte compns. containing branched polyoxyethylene polymers
for secondary battery)
- IT 107-21-1D, Ethylene glycol, compds. with glyceryl ethers
(additives; in solid electrolyte compns. containing branched
polyoxyethylene polymers for secondary battery)
- IT 56-81-3D, Glycerol, ethers, compds. with pentaerythritol
(additives; solid electrolyte compns. containing branched
polyoxyethylene polymers for secondary battery)
- IT 75-05-8, Acetonitrile, uses 96-48-0, γ -Butyrolactone
108-32-7, Propylene carbonate 109-99-9, THF, uses 112-49-2,
Triethylene glycol dimethyl ether 143-24-8, Tetraethylene glycol
dimethyl ether 4353-28-0, Tetraethylene glycol diethyl ether
4437-85-8, Butylene carbonate 4499-99-4, Triethylene glycol diethyl
ether 19836-78-3
(aprotic solvent; in solid electrolyte compns. containing branched
polyoxyethylene polymers for secondary battery)
- IT 7791-03-9, Lithium perchlorate 90076-65-6, Lithium
bistrifluoromethane sulfonyl imide
(electrolyte; in solid electrolyte compns. containing branched
polyoxyethylene polymers for secondary battery)
- IT 91848-80-5
(in solid electrolyte compns. containing branched polyoxyethylene
polymers for secondary battery)
- IT 25721-76-0, Polyethylene glycol dimethacrylate 26570-48-9,
Polyethylene glycol diacrylate 27252-83-1, Polyethylene glycol
diacetate
(in solid electrolyte compns. containing branched polyoxyethylene
polymers for secondary battery)
- IT 9004-74-4D, Polyethylene glycol monomethyl ether,
octylaluminum derivs. 24991-55-7, Polyethylene glycol dimethyl ether
27274-31-3D, Polyethylene glycol monoallyl ether, octylaluminum

derivs. 27879-07-8D, Polyethylene glycol monoethyl ether,
 octylaluminum derivs. 31494-81-2, Polyethylene glycol monomethyl
 ether sodium salt 53609-62-4, Polyethylene glycol diethyl ether
 59788-01-1, Polyethylene glycol diallyl ether 60436-25-1
 113151-63-6 153815-02-2

(plasticizers; in solid electrolyte compns. containing branched
 polyoxyethylene polymers for secondary battery)

IT 203863-94-9

(plasticizers; n solid electrolyte compns. containing branched
 polyoxyethylene polymers for secondary battery)

IT 203863-85-8P, Diethylene glycol allyl glycidyl ether-ethylene oxide
 graft copolymer 203863-86-9P, Allyl glycidyl ether-diethylene glycol
 glycidyl allyl ether-ethylene oxide graft copolymer 203863-87-0P,
 Ethylene oxide-glycidyl methacrylate-tetraethylene glycol glycidyl
 allyl ether graft copolymer 203863-88-1P, Ethylene
 oxide-γ-glycidoxypropyltrimethoxysilane-polyethylene glycol
 glycidyl methyl ether graft copolymer 203863-89-2P, Diethylene
 glycol glycidyl cyclohexyl ether-ethylene
 oxide-γ-glycidoxypropylmethyldimethoxysilane copolymer
 203863-90-5P, Ethylene oxide-2,3-epoxypropyl
 2',3'-epoxy-2'-methylpropyl ether-triethylene glycol glycidyl methyl
 ether graft copolymer 203863-92-7P, Diethylene glycol
 2,3-epoxypropyl 2',3'-epoxy-2'-methylpropyl ether-diethylene glycol
 glycidyl propyl ether-ethylene oxide graft copolymer 203863-93-8P,
 Ethylene oxide-triethylene glycol glycidyl methyl ether graft
 copolymer 203944-15-4P, Diethylene glycol glycidyl methyl
 ether-ethylene oxide graft copolymer

(solid electrolyte compns. for secondary battery)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Bailey, F	1967			US 3297783 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			JP 03-47833 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			CA 2014442 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			EP 392839 A1	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			US 5116541 A	HCAPLUS
Dai-Ichi Kogyo Seiyaku	1991			DE 69020777 E	
Dai-Ichi Kogyo Seiyaku	1991			KR 9501854 B1	
Hitachi Maxell Ltd	1990			JP 02-295004 A	HCAPLUS
Osaka Soda Co Ltd	1987			EP 222586 A1	HCAPLUS
Osaka Soda Co Ltd	1987			DE 3650211 G	
Osaka Soda Co Ltd	1987			US 4711950 A	HCAPLUS
Osaka Soda Co Ltd	1987			JP 62-169823 A	HCAPLUS
Yuasa Corp	1993			JP 05-304051 A	HCAPLUS

OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS
 RECORD (20 CITINGS)

L101 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:309129 HCAPLUS Full-text

DOCUMENT NUMBER: 124:348077

ORIGINAL REFERENCE NO.: 124:64541a,64544a

TITLE: Vacuum deposition of polymer electrolytes on
 flexible substrates

AUTHOR(S): Affinito, J. D.; Gross, M. E.; Coronado, C. A.;
 Dunham, G. C.; Martin, P. M.

CORPORATE SOURCE: Pacific Northwest National Laboratory, Materials
 Sciences Department, Richland, WA, 99352, USA

SOURCE: Proceedings of International Conference on Vacuum
 Web Coating, 9th, Tucson, Ariz., Nov. 12-14, 1995

(1995), 20-36. Editor(s): Bakish,
Robert A. Bakish Materials Corp.: Englewood, N.
J.

CODEN: 62UPAV

DOCUMENT TYPE:

Conference

LANGUAGE:

English

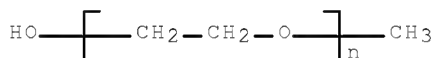
AB Two new, high rate, vacuum processes have been developed for the deposition of polymer electrolyte layers on wide web substrates. One method involves the vacuum extrusion of monomer salt solns. followed by e-beam or UV curing. The second method involves the vacuum flash evaporation of the monomer salt solution followed by e-beam or UV curing. Each method is compatible with simultaneous, in-line, deposition by conventional processes like sputtering or evaporation in a wide web system. Optically clear polymer electrolyte layers may be deposited at line speeds in excess of 100 m per min with these new techniques. Ionic conductivity measurements will be presented for vacuum deposited, evaporated and extruded, polymer electrolyte layers. Films were deposited with thicknesses ranging from 2 to 50 μm . Application of these methods to ongoing electrochromic and battery work at PNNL will be discussed. The basic battery layer structure will be discussed and some preliminary data on the lithium anode deposition and polymer multilayer (PML)/oxide encapsulation layers will be presented. Of particular note are the O₂ and H₂O permeation rates of our PML/Oxide/PML barrier layers. These barrier layers are perfectly transparent, with permeations below the detection limits of the instrumentation - <0.001 mL/100 in.²-24 h for O₂ and <0.001 g/100 in.²-24 h for H₂O.

IT 9004-74-4, Polyethylene glycol methyl ether
26570-48-9

(vacuum deposition of polymer electrolytes on flexible substrates)

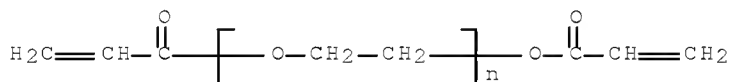
RN 9004-74-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -methyl- ω -hydroxy- (CA INDEX
NAME)



RN 26570-48-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST battery polymer electrolyte vacuum deposition;
electrochromic device polymer electrolyte vacuum deposition

IT Battery electrolytes

Crosslinking

Lamination

(vacuum deposition of polymer electrolytes on flexible substrates)

IT 9004-74-4, Polyethylene glycol methyl ether 21324-40-3,
 Lithium hexafluorophosphate 26570-48-9 33454-82-9,
 Lithium trifluoromethanesulfonate
 (vacuum deposition of polymer electrolytes on flexible substrates)
 OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS
 RECORD (7 CITINGS)

L101 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1991:146972 HCAPLUS Full-text
 DOCUMENT NUMBER: 114:146972
 ORIGINAL REFERENCE NO.: 114:24871a,24874a
 TITLE: Solid electrolyte-containing lithium
 batteries and their manufacture
 INVENTOR(S): Kashima, Mikito; Takahashi, Toru
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

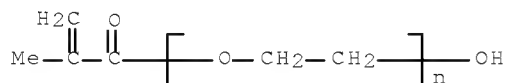
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 02192661	A	19900730	JP 1989-9872	19890120
			<--	
PRIORITY APPLN. INFO.:			JP 1989-9872	19890120
			<--	

AB The batteries have an anode of a plurality of fine Li wires coated with a thin layer of a polymer solid-electrolyte separator inserted in a battery case-cathode collector and a cathode-active mass filled in the case void. The batteries are prepared by filling the cathode-active mass into the anode-containing battery cases under reduced pressure. Molten Li was coated on fine stainless steel wires by extrusion and an electrolyte mixture containing PEG monomethacrylate, PEG acrylate, dimethoxy PEG, and LiClO₄ was applied to the wires and cured by UV irradiation to form a solid electrode-separator film on the wires. Li-MnO₂ batteries using anodes prepared from these wires and a LiClO₄ in propylene carbonate-DME electrolyte had good performance at high discharge rate.

IT 25736-86-1D, complexes of lithium with PEG methacrylate and dimethoxy PEG and 25852-47-5D, complexes of lithium with PEG monomethacrylate and dimethoxy PEG and
 (electrolyte-separator, anodes from lithium wires coated with, for batteries)

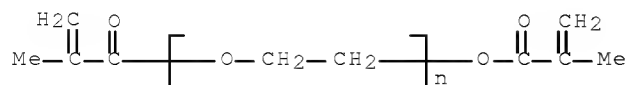
RN 25736-86-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -hydroxy- (CA INDEX NAME)



RN 25852-47-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-methyl-1-oxo-2-propen-1-yl)-
 ω -[(2-methyl-1-oxo-2-propen-1-yl)oxy]- (CA INDEX NAME)



IC ICM H01M0006-18
ICS H01M0004-06; H01M0004-08
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST solid electrolyte battery lithium anode; lithium perchlorate PEG battery electrolyte; separator
battery lithium perchlorate PEG
IT Batteries, primary
(lithium-manganese dioxide, high discharge-rate)
IT Anodes
(battery, lithium, from polymer solid electrolyte-coated wires of, high discharge-rate)
IT 7439-93-2, Lithium, uses and miscellaneous
(anodes from polymer solid electrolyte-coated wires of, for batteries)
IT 7791-03-9, Lithium perchlorate
(electrolyte-separator layers containing PEG derivs. and, anodes from lithium wires coated with, for batteries)
IT 7439-93-2D, Lithium, complexes with mixts. of PEG derivs. 24991-55-7D, complexes of lithium with PEG methacrylate and PEG monomethacrylate and 25736-86-1D, complexes of lithium with PEG methacrylate and dimethoxy PEG and 25852-47-5D, complexes of lithium with PEG monomethacrylate and dimethoxy PEG and (electrolyte-separator, anodes from lithium wires coated with, for batteries)

=> D L102 1-2 IBIB ABS HITSTR HITIND RETABLE

L102 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2004:433703 HCAPLUS Full-text
DOCUMENT NUMBER: 141:9611
TITLE: Enzyme immobilization for use in biofuel cells and sensors
INVENTOR(S): Minteer, Shelley D.; Akers, Niki L.; Moore, Christine M.
PATENT ASSIGNEE(S): St. Louis University, USA
SOURCE: U.S. Pat. Appl. Publ., 33 pp., which
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040101741	A1	20040527	US 2003-617452	20030711
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US 7638228	B2	20091229		
CA 2507455	A1	20040617	CA 2003-2507455	20031121

WO 2004051774 A2 20040617 WO 2003-US37336 20031121
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 WO 2004051774 A3 20041125
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
 MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
 SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
 VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
 DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
 SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG
 AU 2003297552 A1 20040623 AU 2003-297552 20031121
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 EP 1565957 A2 20050824 EP 2003-812443 20031121
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 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 JP 2006508519 T 20060309 JP 2004-570766 20031121
 <--
 US 20100041123 A1 20100218 US 2009-576014 20091008
 <--
 PRIORITY APPLN. INFO.: US 2002-429829P P 20021127
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 US 2003-486076P P 20030710
 <--
 US 2003-617452 A 20030711
 <--
 WO 2003-US37336 W 20031121
 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 141:9611

AB Disclosed are bioanodes comprising a quaternary ammonium treated Nafion polymer membrane and a dehydrogenase incorporated within the treated Nafion polymer. The dehydrogenase catalyzes the oxidation of an organic fuel and reduces an adenine dinucleotide. The ion conducting polymer membrane lies juxtaposed to a polymethylene green redox polymer membrane, which serves to electro-oxidize the reduced adenine dinucleotide. The bioanode is used in a fuel cell to produce high power densities.

IT 12597-68-1, Stainless steel, uses
 (electron conductor; enzyme immobilization for use in biofuel cells and sensors)

RN 12597-68-1 HCAPLUS

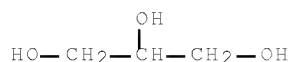
CN Stainless steel (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 56-81-5, Glycerol, uses 67-56-1, Methanol, uses
 (enzyme immobilization for use in biofuel cells and sensors)

RN 56-81-5 HCAPLUS

CN 1,2,3-Propanetriol (CA INDEX NAME)



RN 67-56-1 HCAPLUS
 CN Methanol (CA INDEX NAME)

H3C-OH

IC ICM H01M0004-90
 ICS H01M0004-96; H01M0008-10; C12N0011-08
 INCL 429043000; X42-9 4.4; X42-9 4.2; X42-9 3.0; X42-9 1.3; X43-518.0
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 7, 38
 ST enzyme immobilization biofuel cell sensor; fuel cell
 biochem enzyme immobilization
 IT Fuel cell cathodes
 (biocathode; enzyme immobilization for use in biofuel cells and
 sensors)
 IT Fuel cells
 (biochem. fuel cells; enzyme immobilization for
 use in biofuel cells and sensors)
 IT Nanotubes
 (carbon, electron conductor; enzyme immobilization for use in
 biofuel cells and sensors)
 IT Bioassay
 Bioreactors
 Biosensors
 Ceramics
 Colloids
 Conducting polymers
 Immunoassay
 Liposomes
 Nanoparticles
 (enzyme immobilization for use in biofuel cells and sensors)
 IT Gels
 (sol, carbon modified with; enzyme immobilization for use
 in biofuel cells and sensors)
 IT 7439-89-6, Iron, uses 7439-97-6, Mercury, uses 7440-02-0, Nickel,
 uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses
 7440-33-7, Tungsten, uses 7440-50-8, Copper, uses 7440-57-5, Gold,
 uses 7782-42-5, Graphite, uses 11129-18-3, Cerium oxide
 12597-68-1, Stainless steel, uses 12612-50-9, Molybdenum
 sulfide
 (electron conductor; enzyme immobilization for use in biofuel cells
 and sensors)
 IT 50-00-0, Formaldehyde, uses 50-28-2, Estradiol, uses 50-99-7,
 Glucose, uses 50-99-7, D-Glucose, uses 53-57-6, NADPH 56-73-5,
 Glucose-6-phosphate 56-81-5, Glycerol, uses 57-60-3,
 Pyruvate, uses 58-22-0, Testosterone 58-68-4, NADH 60-33-3,
 Linoleic acid, uses 64-17-5, Ethanol, uses 64-20-0,
 TetramethylAmmonium bromide 67-56-1, Methanol, uses
 67-63-0, Isopropanol, uses 71-47-6, Formate, uses 71-50-1,
 Acetate, uses 71-91-0, TetraethylAmmonium bromide 72-89-9, Acetyl
 co-a 75-07-0, Acetaldehyde, uses 78-83-1, Isobutanol, uses
 79-33-4, uses 85-61-0, Coenzyme a, uses 87-78-5, Mannitol
 96-41-3, Cyclopentanol 104-54-1, Cinnamyl alcohol 107-18-6, Allyl
 alcohol, uses 113-21-3, Lactate, uses 116-14-3D,

Tetrafluoroethylene, copolymer, with perfluorosulfonic acid
 116-31-4, Retinal 123-72-8, Butanal 126-44-3, Citrate, uses
 149-61-1, Malate 151-21-3, Sodium dodecyl sulfate, uses 320-77-4
 383-86-8, Glycerate 577-11-7, Sodium bis(2-ethylhexyl)sulfosuccinate
 598-35-6, Lactaldehyde 608-59-3, Gluconate 633-96-5 820-11-1
 866-97-7, TetrapentylAmmonium bromide 921-60-8, L-Glucose
 1119-97-7, TetraDecyltrimethylammonium bromide 1333-74-0, Hydrogen,
 uses 1941-30-6, TetrapropylAmmonium bromide 2002-48-4, Glucuronate
 2082-84-0, Decyltrimethylammonium bromide 3615-39-2, Sorbose
 7664-41-7, Ammonia, uses 9001-37-0, Glucose oxidase 9001-60-9,
 Lactic dehydrogenase 9013-18-7, Acyl-CoA synthase 9014-20-4,
 Pyruvate dehydrogenase 9028-53-9, Glucose dehydrogenase 9028-84-6,
 Formaldehyde dehydrogenase 9028-85-7, Formate dehydrogenase
 9028-86-8, Aldehyde dehydrogenase 9031-72-5, Alcohol dehydrogenase
 9035-82-9, Dehydrogenase 9055-15-6, Oxidoreductase 10326-41-7,
 uses 12124-97-9, Ammonium bromide 26264-14-2, Propanediol
 26566-61-0, Galactose 29354-98-1, Hexadecanol 30237-26-4, Fructose
 31103-86-3, Mannose 35296-72-1, Butanol 53414-64-5, Lactose
 dehydrogenase 62309-51-7, Propanol 66796-30-3, Nafion 117
 163294-14-2, Nafion 112

(enzyme immobilization for use in biofuel cells and sensors)

IT 13463-67-7, Titanium oxide, uses

(nanoporous, electron conductor; enzyme immobilization
 for use in biofuel cells and sensors)

IT 10043-11-5, Boron nitride, uses

(nanotubes; enzyme immobilization for use in biofuel
 cells and sensors)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	+	+	+	=====	+
Acker	2002			US 6460733 B2	
Anon	1989			EP 0300082 A	HCAPLUS
Anon	1990			WO 90/05910 A1	HCAPLUS
Anon	1995			EP 0667397 A1	HCAPLUS
Anon	1996			EP 0747984 A2	HCAPLUS
Anon	1999			WO 99/38003 A1	HCAPLUS
Anon	2000			WO 00/22688 A3	HCAPLUS
Anon	2003			WO 03/006713 A1	HCAPLUS
Anon	2003			WO 03/019170 A1	HCAPLUS
Anon	2003			WO 03106966 A2	HCAPLUS
Anon	2004				
Anon	2004			WO 2004079848 A	HCAPLUS
Anon	2006				
Anon	2006				
Anon	2007				
Anon	2007				
Armstrong	2004			US 20040214053 A1	HCAPLUS
Beck	1978			US 4117202 A	HCAPLUS
Blaedel, W	1975	47	1337	Analytical Chemistry	HCAPLUS
Bonaventura	1988			US 4761209 A	HCAPLUS
Bove	1980			US 4207076 A	HCAPLUS
Chen	2001	123	8630	Journal of American	HCAPLUS
Corey	1995			US 5393615 A	HCAPLUS
Davis	1983	5	383	Enzyme and Microbial	HCAPLUS
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